The ADVERTISERS' INDEX

A

Ajax Iron Works
Alco Products, Inc. 91
Alton Railroad Co., The
Allegheny Steel Co.
Allis-Chalmers Mfg. Co.
Allis, Louis Co., The
Allsteel Products Mfg. Co., Inc., The
Aluminum Co. of America
American Cable Co., Inc
American Cast Iron Pipe Co. 109
American Iron & Machine Works Co.
American Meter Co. 7
American Radiator Co.
American Rolling Mill Co., The
American Sheet & Tin Plate Co.
American Stainless Steel Co.
American Steam Pump Co.
American Steel & Wire Co.
American Steel Works
American Tank & Equipment Corp.
American Well Works, The 106
Anchor Post Fence Co.
Armstrong Machine Works
Automotive Distillate Corp.
Athey Truss Wheel Co.
Axelson Mfg. Co., Ltd.
Ayer & Lord Tie Co.

B

Badger, E. B., & Sons Co.
Badgett Steam Lubricator Co.
Baker Oil Tools, Inc. 2
Barber-Greene Co. 63
Barold Sales Co. 101
Barnsdall Refineries, Inc.
Barrett Co., The
Bethlehem Steel Co.
Bigelow-Liptak Corp.
Bignall & Keeler Machine Works 67
Black, Sivalls & Bryson, Inc.
Bradford Motor Works, Inc.
Brauer Machine & Supply Co.
Braun, C. F., & Co.
Brewster Co., Inc., The
Bridgeport Machine Co. 47
Bristol Co., The 73
Broderick & Bascom Rope Co.
Broderick Co., The
Brown Instrument Co. 4
Buckeye Traction Ditcher Co.
Burford Oil Co.
Butler Mfg. Co.
Byers, A. M., Co. 31
Byron Jackson Co.

C

Carey, Philip, Co., The
Caterpillar Tractor Co.
Chain Belt Co.
Chaplin-Fulton Mfg. Co., The 105
Chapman Valve Mfg. Co., The
Chicago Bridge & Iron Works 105
Clark Brothers
Classified Wants 76-77
Cleveland Trencher Co., The
Colena Mfg. Co.
Columbian Rope Co.
Columbian Steel Tank
Columbus Forge & Iron Co., The 106
Continental Supply Co., The 41
Cooper-Bessemer Corp., The 51
Corona Products, Inc.
Crane Co. 52

D

Darling Valve & Mfg. Co.
Dart, E. M., Mfg. Co.
Davey Compressor Co.
Davis Regulator Co.
Dearborn Chemical Co.
Dehydro, Inc.
Devine Mfg. Co., Inc., J. P.
Diamond Rubber Co.
Dixon Crucible Co., Joseph
Dodge Brothers Corp.
Donovan Boiler Works, Inc.
Dresser, S. R., Mfg. Co. 21
Driftmeter, Inc.

E

Eagle-Picher Lead Co.
East Texas Refining Co.
Economy Pump & Tool Co., The
Edward Valve & Mfg. Co., Inc.
Elliott Mfg. Co.
Empire Oil & Refining Co.
Emsco Derrick & Equipment Co.
Ethyl Gasoline Corp.
Exchange Banks of Tulsa

F

Falk Corp., The
Fenwick-Reddaway Mfg. Co.
Fisher Governor Co.
Foster Wheeler Corp.
Foxboro Co., Inc., The
Franklin Valveless Engine Co.
Frick-Reid Supply Corp.
Frisco Lines

G

Gardner-Denver Co.
Garlock Packing Co., The
Gaso Pump & Burner Mfg. Co. Inside Back Cover
Gates Rubber Co.
General American Tank Car Corp.
General Electric Co.
General Paint Corp.
Globe Oil Tools Co.
Goodrich, B. F., Rubber Co., The
Goodyear Tire & Rubber Co. 39
Gott, H. P., Mfg. Co., Inc.
Goulds Pumps, Inc.
Granite City Steel Co.
Gray Processes Corp., The
Griscom-Russell Co., The
Gulberson Corp., The
Gulf Refining Co. 98

H

Halliburton Oil Well Cementing Co.
Harrisburg Pipe & Pipe Bending Co.
Hazard Wire Rope Co.
Hedges-Walsh-Weidner Co., The
Heeter, Sons & Co., Inc., C. M.
Hercules Motors Corp.
Hercules Supply Co.
Hercules Tool Co.
Heydrick Mapping Co. 104
Highland Iron & Steel Co., The 5
Hill, Hubbell & Co.
Hope Engineering Co. 48
Hough, Charles N., Mfg. Co., The
Hughes Tool Co. Back Cover
Humble Oil & Refining Co.

I

Industrial Dallas, Inc.
International Harvester Co. of America
International Nickel Co., Inc., The
International-Stacey Corp. 59
International Supply Co.

J

Jackson Co., Byron
Jackson Engineering Corp.
Jarecki Mfg. Co.
Jenkins Bros. 70
Jerguson Gage & Valve Co. 104
Johns-Manville Corp.
Jones & Laughlin Steel Corp.

K

Kellog, M. W., Co., The
Kennedy Valve Co., The 83
Kerotest Mfg. Co.
Key Boiler Equipment Co.
Kirk-Morrow Iron Works, Inc.

L

Landis Machine Co., Inc. 3
Layne & Bowler Co.
Leader Iron Works, Inc. 107
Leeds & Northrup Co.
Lemmons, Inc., Henry L.
Leonard Construction Co.
Lincoln Electric Co.
Linde Air Products Co.
Longyear, E. J., Co.
Lucey Products Corp.
Ludlow Valve Mfg. Co.
Lufkin Foundry & Machine Co., The
Lummus Co., The
Lunkenheimer Co., The

Mc

McAlear Mfg. Co., The
McClintic-Marshall Corp.
McCord Radiator & Mfg. Co. 87
McKee, Arthur G., & Co.

M

MacClatchie Mfg. Co.
Magnolia Petroleum Co.
Mair, D. S., Machinery Corp.
Maloney Tank Mfg. Co.
Marshall Chamber of Commerce
Marsh Gauge Pole Co.
Martin-Decker Corp.
Mathieson Alkali Works, Inc., The
Merco Nordstrom Valve Co. Front Cover
Metric Metal Works 7
Michigan Valve & Foundry Co.
Mid-Continent Map Co.
Midwest Piping & Supply Co., Inc.
Mine Safety Appliance Co. 107
Moon Mfg. Co., The
Moore, Lee C., & Co., Inc.
Moorlane Co., Inc.
Moser Manufacturing Co.
Munn & Co. 104

N

National Airoil Burner Co.
National Equipment Co.
National Lead Co. 69
National Supply Co.
National Tank Co.
National Transit Pump & Machine Co. 19
National Tube Co. 35
Naylor Pipe Co.
Neilan Co., Ltd. 88
North American Car Corp.

O

Oakite Products, Inc. 107
Ohio Injector Co., The
Oil and Gas Journal, The 64
Oil Conservation Engineering Co., The 74
Oil Well Supply Co.
Oxweld Acetylene Co.

P

Page Fence Assn.
Paraffine Companies, Inc., The
Parkersburg Rig & Reel Co., The 8
Patterson-Ballagh Corp. Inside Front Cover
Penberthy Injector Co. 23
Petroleum Engineering, Inc.
Petroleum Equipment Co.
Petroleum Iron Works Co.
Pickering Governor Co., The 107
Pittsburgh-Des Moines Steel Co.
Pittsburgh Equitable Meter Co.
Pittsburgh Screw & Bolt Corp.
Pittsburgh Steel Products Co.
Plymouth Cordage Co.
Pomona Pump Co.
Powell, William, Co.
Power Mfg. Co., The
Power Piping Co.
Prescott Co., The
Prest-O-Lite Co., Inc., The

P

Public Service Co.
Pure Oil Co., The

R

Reading Iron Co.
Reading-Pratt & Cady Co., Inc.
Regan Forge & Engineering Co.
Reid, Joseph, Gas Engine Co.
Republic Steel Corp.
Republic Supply Co.
Robinson Orifice Fitting Co.
Roebling's, John A., Sons Co.
Ross-Meehan Foundries Co.

S

St. Louis Cordage Mills
Shaffer Tool Works
Sherwin-Williams Co.
Sitton, E. R. 104
Smith Bros. Construction Corp.
Smith Separator Co.
Smooth-On Mfg. Co. 81
South Chester Tube Co.
Southwestern Construction Corp.
Spang, Chalfant & Co., Inc.
Sperry-Sun Well Surveying Co.
Stockham Pipe & Fittings Co.
Stoody Co.
Sullivan Machinery Co.
Sureshot Torpedo Co. 106

T

Tagliabue, C. J., Mfg. Co. 45
Taubman Supply Corp.
Taylor Forge & Pipe Works
Technical Products, Inc.
Texas Electric Service
Texas Steel Co. 106
Timken Roller Bearing Co., The 55
Titusville Iron Works Co.
Toledo Pipe Threading Machine Co., The 83
Trackson Co.
Tretolite Co.
Trimont Mfg. Co.
Truman Smith Const. Co., The 29
Truscon Steel Co.
Tube Turns, Inc.

U

Union Carbide & Carbon Corp.
Union Wire Rope Co.
United Engineers & Constructors
United States Steel Corp.
Universal Oil Products Co. 37

V

Vacuum Oil Co., The
Vellumoid Co., The 81
Vickers Machine Co.
Victaulic Co. of America 80
Vogt, Henry, Machine Co. 60

W

Wagner Electric Corp.
Wailes, Dove-Hermiston Corp.
Walworth Co. 1
Warren Petroleum Co.
Waukesha Motor Co.
Westco Pump Corp.
Wescott Valve Co. 1
Western Gas Construction Co., The
Westinghouse Electric & Mfg. Co., The
Wickwire Spencer Steel Co.
Wico Electric Co.
Williamsport Wire Rope Co. 6
Wilson-Snyder Mfg. Corp.
Winkler-Koch Engineering Co., The
W. K. M. Co., Inc.
Worthington Pump & Machy. Corp.
Wright Manufacturing Co.
Wyatt Metal & Boiler Works

Y

Young Engine Corp.
Youngstown Sheet & Tube Co., The 56-57

The OIL and GAS JOURNAL

PRODUCING REFINING PIPELINE ENGINEERING MARKETING

VOL. 30. NO. 25 TULSA, OKLAHOMA, NOVEMBER 5, 1931

Copyright, 1931, by The Petroleum Publishing Co.

Table of Contents

SPECIAL ARTICLES

Price Increases Reflect Improvement ... 11
By Andrew M. Rowley
Higher schedules entirely justified by conditions. All branches of industry feeling effects of better times.

Crude Prices Advanced in Many Fields ... 13
By James McIntyre
Led by Continental Oil Co., purchasers in Mid-Continent, Gulf Coast and Central West post new figures.

Governor Sterling For Acreage Unit ... 13
Believes it can and will be put into effect in East Texas.

Interstate Compacts Vital ... 14
By C. B. Ames
Developments in Oklahoma and Texas indicate gravity of surplus.

Belief Grows Reeser Will Be Re-elected ... 14
By Andrew M. Rowley
Position as arbiter in California fits with Institute presidency.

Tunnel for Pipe Line Under Houston Channel ... 15
By Neil Williams

Sherman Law Economic Impediment ... 16
By Oscar Sutro
Statute has become agent that retards recovery of business.

Tide Water Installs Mammoth Tower ... 16
By A. E. Mockler
Unit 93 feet high, 12 feet diameter with working pressure of 150 pounds

Community Lease Offers Better Method of Development ... 17
By Thomas M. Galey

Acetylene Association to Meet at Chicago ... 17

Leasing Oil Land Presents Problems ... 18
By L. G. E. Bignell
Securing clear titles presents many interesting incidents.

Van Pool Example of Unit Operation ... 18

Oil Chief Marshal (Editorial) ... 20

Drill Cracking Tubes to Reduce Hazard ... 22
By Louis de Florez
System to give timely warning to reveal equipment failures.

Ratable Takings of Gas Ordered in Texas ... 24

World Oil Conference Proposed by Rumanians ... 24

Texas Commission Order Against Waste ... 26

Pipe Line Construction News ... 28

Individual Oil Operator Not Dead Yet ... 30
By Dorsey Hager
Needed as discoverer of new reserves. Advantage in initiative.

Bureau of Mines Report for September ... 30

Gulf Port Shipments ... 43

Field Problems and Their Solution ... 58
Edited by Thomas F. Smiley

Oil Men Before Journal's Cameras ... 62

Annual Report of Bureau of Mines for 1930 ... 108

FIELD OPERATIONS

Late Fields ... 24

East Texas ... 25
By L. E. Bredberg

West Texas, North Texas and Panhandle ... 27
By L. E. Bredberg

Oklahoma ... 33
By W. A. Spinney

Kansas ... 34
By W. A. Spinney

North Louisiana-Arkansas-Mississippi ... 36
By J. R. Crumpton

Gulf Coast ... 38
By Neil Williams

Southwest Texas ... 40
By B. D. Stevenson

Rocky Mountain Area ... 42
By Tolbert R. Ingram

California ... 44
By L. P. Stockman

Canada ... 46
By Victor Lauriston

Central West, Kentucky and Michigan ... 49
By George A. Whitney

Eastern Fields ... 49
By Staff Correspondent

Tioga Gas Field ... 102

REFINING AND MARKETING

Crude Advances Strengthen Market ... 12
By C. O. Willson
Refinery gasoline prices continue advance in Oklahoma with market in other products generally firm.

Technical Questions Answered ... 61
By C. K. Francis, Ph.D.

Watchful Waiting in Chicago Markets ... 78
By Robert C. Conine
Refiners interested in advance in antiknock values.

Improved Sentiment on East Coast ... 79
By A. E. Mockler
Firming in exports on Gulf imparts constructive feeling.

Brief Items for Petroleum Refiners ... 89

Natural Gasoline Manufacture ... 90-91

Refinery and Crude Prices ... 92-93

Tank Wagon Quotations ... 94

Of Interest to Sales Departments ... 95

DEPARTMENTS OF GENERAL INTEREST

The Advertisers Index ... 9

Personal Paragraphs About Oil Men ... 50

Natural Gas Developments ... 53

Oil Industry Equipment and Supplies ... 54

Classified Want Advertisements ... 76-77

Oil Securities Market ... 96-97

California Field Operations September ... 106

Crude Petroleum Statistics ... 112

BRANCH OFFICE CORRESPONDENTS

L. E. Bredberg, 601 Petroleum Building, Fort Worth, Tex.
Robert C. Conine, Room 1416, 6 North Michigan Ave., Chicago, Ill.
J. R. Crumpton, 540 Ricou Brewster Building, Shreveport, La.
Paul A. Elliott, Chronicle Office, Muskegon, Mich.
Tolbert R. Ingram, 130 State Office Building, Denver, Colo.
Charles E. Kern, 606 District National Bank Building, Washington, D. C.
Victor Lauriston, 35 Stanley Ave., Chatham, Ontario, Canada.
B. E. V. Luty, Bessemer Building, Pittsburgh, Pa.
A. E. Mockler, Rooms 1919-21, No. 154 Nassau Street, New York, N. Y.
B. D. Stevenson, 1504 Milam Building, San Antonio, Tex.
L. P. Stockman, 522 Union Oil Building, Los Angeles, Calif.
Leon H. Walter, Oil City Derrick, Oil City, Pa.
George A. Whitney, Box 98, Main Post Office, Toledo, Ohio.
Neil Williams, 1316 Second National Bank Building, Houston, Tex.

Refinery Section Starts on Page 78

Price Increases Reflect Improvement

Highest production in 1930, week ending Feb. 22, average daily output 2,699,096 bbls. Peak of U. S. production, week ending Aug. 24, 1929, average 2,975,435 bbls.

Higher Schedules Entirely Justified by Conditions. All Branches of Industry Feeling Effects of Better Times

By Andrew M. Rowley

Lowest daily average crude oil production in the United States during 1930 was for week ending Dec. 27 with average output of 2,144,074 bbls.

Better times in the petroleum industry, reflected in the advance in prices of crude oil and the improved tone in the refined oil market, are a fact and not a theory. The increases in prices announced this week are fully justified by conditions in the business and have been warranted ever since it was assured production had been stabilized. Higher postings for California crude oil are expected to be announced around the middle of this month. Conditions in California are such the purchasers there can now begin to see their way clear to give producers a better price for their product.

While gasoline price cutters probably were largely responsible for the delay in posting higher prices for crude oil, the industry should realize it always has had price cutters to contend with and probably always will have this element in the business. Such a condition is not a logical reason for penalizing the entire production branch of the business, especially when more than 95 per cent of the gasoline is moving to market at regularly posted prices.

Crude oil producers who have made sacrifices in carrying out the recommendations designed to stabilize production and minimize the menace of overproduction are entitled to more consideration and to a reasonable return on their operations. The higher price schedule now in effect in a large section of the country still is below the level of what it should be. It behooves the production and refining branches of the industry to continue the present policy of keeping supply and requirements in balance.

Not only the producing and refining branches of the industry are beginning to feel the effect of improved conditions. Oil field supply and equipment concerns report an increase in orders for material. In fact, stocks in some supply houses in the Mid-Continent area have been depleted to such an extent hurry calls have been made to factories to speed up production so that orders recently received can be filled.

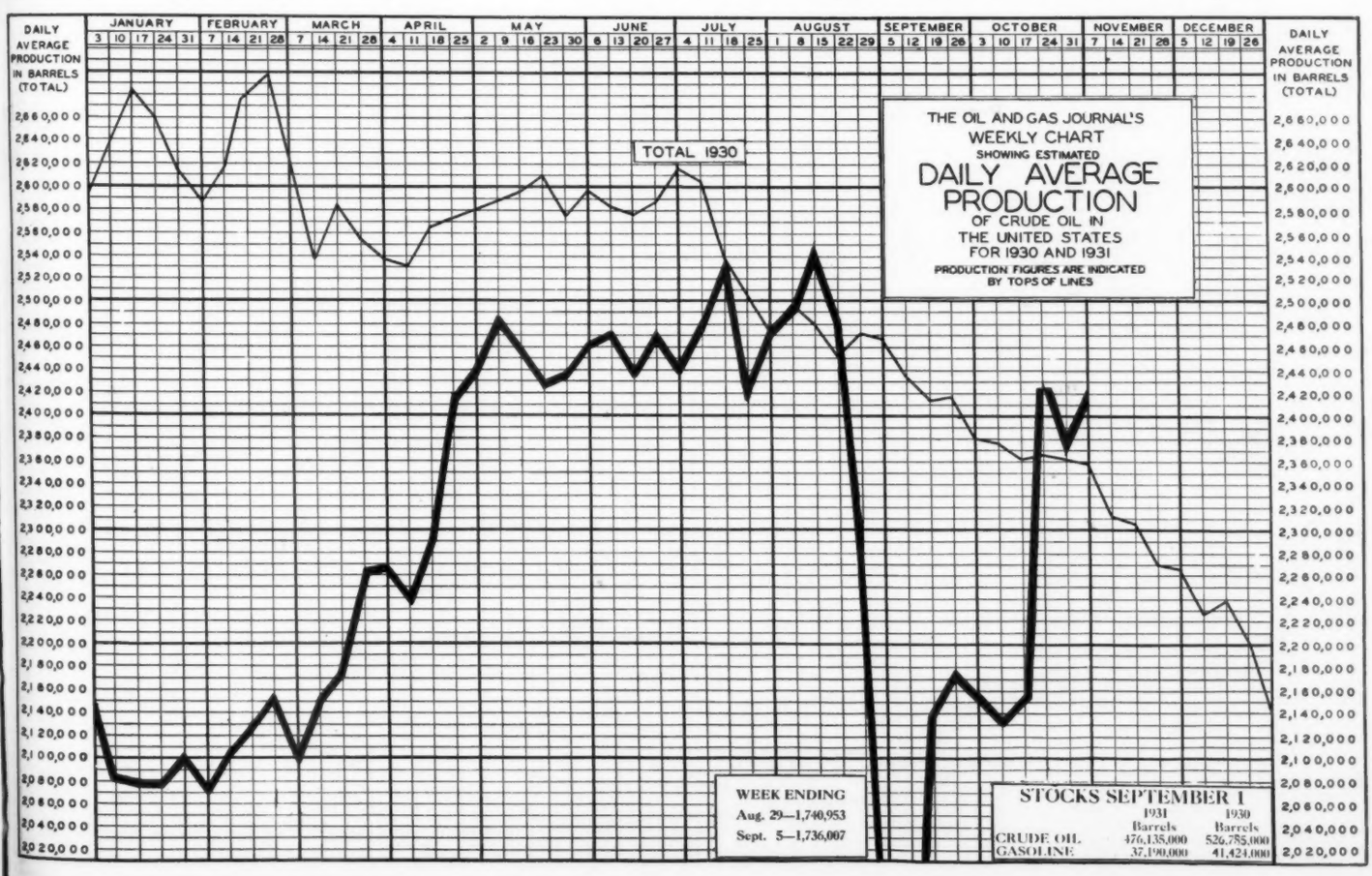
The dominant note of a prosperity parade held in Tulsa last Saturday night might well be applied to the industry throughout the country—"Happy days are here again."

PRODUCTION IN THE UNITED STATES

Estimated daily average production of crude oil in the United States for week ended October 31 and a comparison with the previous week follows:

	Oct. 31	Oct. 24
Oklahoma—		
Oklahoma City	184,815	143,235
Seminole-St. Louis	116,325	122,290
Remainder of State	217,475	216,585
Total Oklahoma	518,615	482,110
East Texas—		
Kilgore	151,515	149,957
Lathrop	122,203	111,990
Joiner	144,011	138,341
Total East Texas	417,729	400,288
West Texas	195,182	196,004
North Louisiana	28,890	29,510
Arkansas	37,760	37,970
North Central Texas	85 835	84,471
Texas Panhandle	65 037	65,089
East Central Texas	56,435	56,265
Kansas	102,740	101,945
Total M'd-Continent area	1,508,223	1,453,655
Gulf Coast—Texas	118,722	119,348
Gulf Coast—Louisiana	31,854	27,256
Southwest Texas	59,752	61,732
Eastern	116 000	116,000
Rocky Mountain area	93,867	94,683
California—		
Santa Fe Springs	59,750	60,000
Long Beach	74,000	76 250
Playa Del Rey	22,500	22,000
Elwood	24 250	25,500
Kettleman Hills	58,000	58,500
Remainder of State	255,500	265,250
Total California	494,000	507,500
Total United States	2,422,418	2,380,171

→ **Increase 42,244 Bbls. Daily** ←



Crude Advances Strengthen Market

Refinery Gasoline Prices Continue Increase in Oklahoma With Market in Other Products Generally Firm

By C. O. Willson

Backed with a general advance in Mid-Continent crude oil prices, the Oklahoma (Group 3) refinery market the first of the week was generally strong. The U. S. Motor grade of refinery gasoline advanced to a low of 4¼ cents, an increase of one-fourth cent over the previous week with similar gains in the higher gravity grades and naphtha cuts. A low of at least 4½ cents was expected for U. S. Motor gasoline before the end of the week.

Natural gasolines, after showing a reactionary trend for a few days last week, again stiffened on Monday and Tuesday as more orders were received. Material at 4½ cents was absorbed by Tuesday and in Oklahoma sales were being made at 4⅝ to 4¾ cents. All grades appeared to be headed for higher levels before the end of the week.

No important price changes in other products developed. Fuel, oils, gas oils and furnace oils were generally strong pointing to higher prices. Kerosenes were holding their own. The only weakness reported was in the cylinder stocks and neutral oils. Scattered price concessions were reported in these products with no changes reported by the larger manufacturers.

The trade on Tuesday was waiting for a general advance in the gasoline tank wagon and service station prices throughout the Middle West as the next major development having direct importance in the tank car markets of the Mid-Continent. It was assumed that when the Stanolind Crude Oil Purchasing Co. met the Mid-Continent crude oil advances on Monday, that the parent company, the Standard Oil Co. of Indiana, would follow with at least a 1-cent increase in gasoline tank wagon and service station prices in the 11 middle western states in which it is the most important distributor.

As explained in these columns last week this probable development is of utmost importance to a majority of refiners in the Mid-Continent including all of the major operators. Probably 85 per cent of the domestic gasoline output of Oklahoma and Kansas refineries and those located in the Middle West is either sold through company owned stations or to jobbers on long time contracts. In the jobber business the buyers are guaranteed a minimum margin between the delivered and tank car price and the tank wagon or service station prices. These contracts in most cases have been netting the Oklahoma and Kansas refiner 3½ cents or less at his plant for the domestic grades, some of which are substantially better in specifications than are required to meet U. S. Motor requirements. A 1-cent advance in the tank wagon and service station prices would bring most of these contracts to 4 to 4½ cents, although in some cases where wide margins were guaranteed the jobbers, the net price would still be under 4 cents.

It is apparent from a study of refinery yields and prices that this advance in retail gasoline prices will be necessary if the new crude oil prices are to be maintained. There is no expectation that the advances in other refinery products will offset the increased crude oil costs for refiners and that means, as usual, that the average operator will have to look for increased revenue from his gasoline output.

Await Outside Developments

In the event, the higher retail prices materialize, market observers believe that the Mid-Continent and Middle West markets, for a short period at least, will mark time awaiting developments in other areas. Several refining areas, some of which are in direct competition with the Mid-Continent and Middle West, have not reflected the advancing market of the past several weeks at interior points. This applies to not only gasoline but several other refinery products.

For example, U. S. Motor gasoline and the higher gravity grades were sold last week at Gulf Coast points for coastwise and export movement under the prices quoted in Oklahoma, the first of this week. Along the Atlantic Seaboard, at

(Continued on Page 102)

REFINED MARKET BAROMETER

Aided by a general advance in Mid-Continent crude oil prices, the Mid-Continent and Middle West refining areas led in the trend toward a stronger market for refined products during the past week. Gasoline prices continued to advance in the areas dependent on the Mid-Continent for their crude oil supplies and in other sections market conditions were reported as pointing to higher prices. This trend included the export as well as the domestic market with the exception of California where prices for local delivery were slightly lower. Kerosene prices were unchanged. Natural gasoline prices advanced in California and were strong in the Mid-Continent. All products used as fuels were stronger at interior points with no changes in coastal prices. Prices were lower on steam refined stocks and bright stocks at eastern refineries. Prices reduced on some grades of paraffin wax in east.

Mid-Continent—Refinery gasoline prices advance in all areas. Natural gasolines strong. Fuel oils, gas oils and furnace oils firm. No change in kerosene. Demand for lubricants centers in low test grades. Wax unchanged.

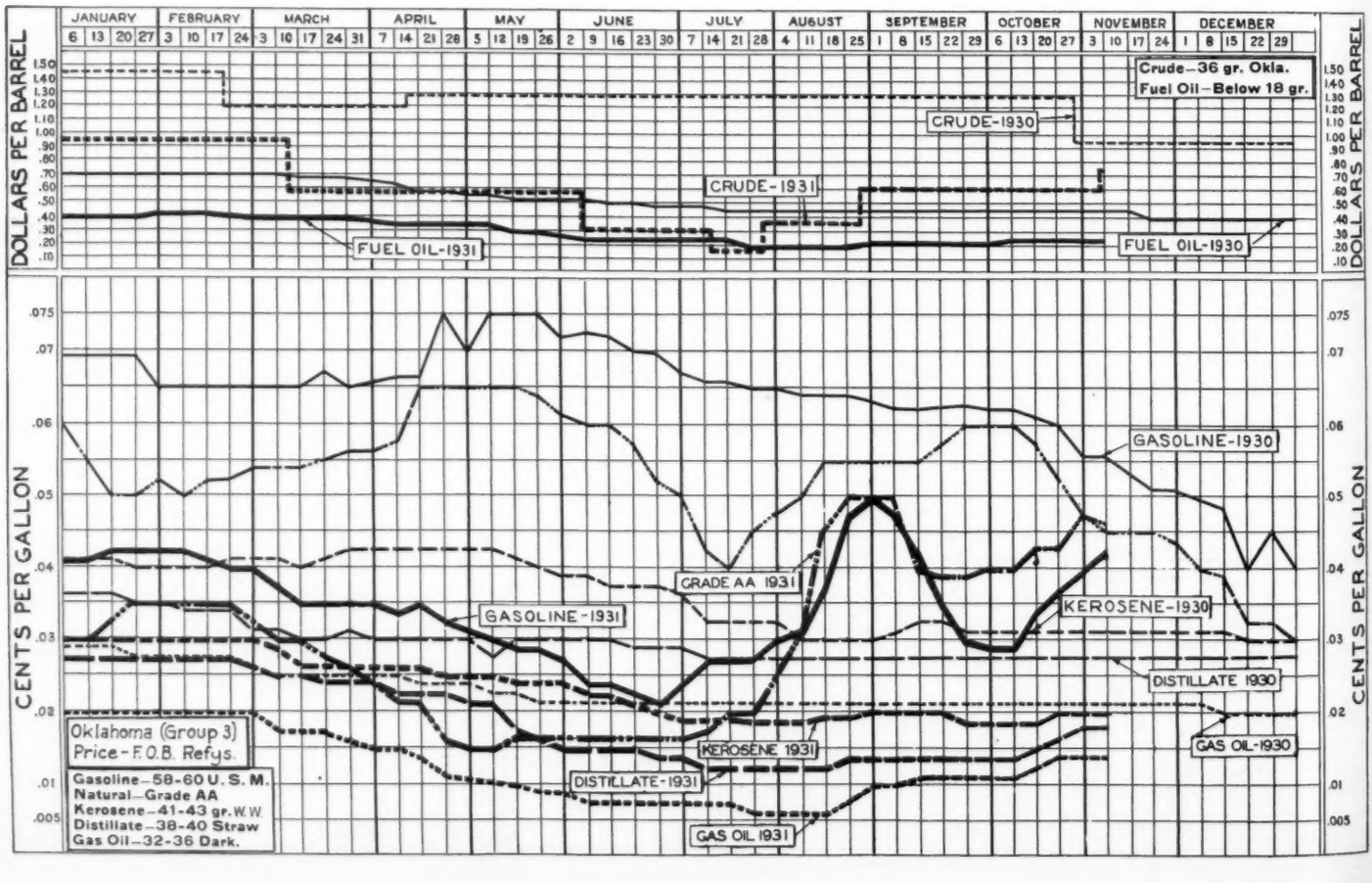
East Coast—Better tone to gasoline market with no changes in prices. Strong seasonal demand for kerosene and furnace oil. Prices on cylinder stocks and bright stocks reduced. Lower melting point wax grades reduced.

Chicago—Refinery gasoline prices advance and higher tank wagon and service station prices expected. Kerosene strong. Market for all classes of fuels, firm.

Pennsylvania—No changes in gasoline and kerosene. Prices on some grades of cylinder stocks and neutrals reduced.

Gulf Coast—Firmer tone to gasoline market following Mid-Continent crude oil advance. Fuels unchanged. Pale and red neutral oils firm.

California—Refinery gasolines for domestic movement reduced. Natural gasolines advance. No change in other products.



Crude Prices Advanced in Many Fields

Led by Continental Oil Co., Purchasers in Mid-Continent, Gulf Coast and Central West Post New Figures

By James McIntyre

The long anticipated rise in the price of Mid-Continent and Gulf Coastal crude oil was made effective Monday, November 2. It was started by the Continental Oil Co. which made an announcement on Saturday, October 31, that on Monday morning, November 2, and until further notice, its price on each grade of oil purchased by it in Kansas, Oklahoma and North and Central Texas would be increased 15 cents per barrel. By Tuesday afternoon every purchaser in the Kansas, Oklahoma and Texas fields had advanced its price, all of which were made effective on November 2.

The Continental Oil Co.'s price schedule covering its purchases in Kansas, Oklahoma, North Texas and Central Texas was as follows:

Below 29 degrees	$ .61
29-29.9 degrees	.63
30-30.9 degrees	.65
31-31.9 degrees	.67
32-32.9 degrees	.69
33-33.9 degrees	.71
34-34.9 degrees	.73
35-35.9 degrees	.75
36-36.9 degrees	.77
37-37.9 degrees	.79
38-38.9 degrees	.81
39-39.9 degrees	.83
40 degrees and above	.85

The announcement of the Continental Oil Co. was received by oil producers throughout the Mid-Continent oil country with every demonstration of sincere satisfaction. It was followed quickly by the Barnsdall Oil Co. and the H. F. Wilcox Oil & Gas Co., and on Monday and Tuesday company after company came in with announcements indicating they had met the advanced price in Kansas, Oklahoma and North and Central Texas. and on the part of some of them that they had advanced their posted prices in other districts in the Texas fields and in Lea County, New Mexico, generally 15 cents per barrel.

Magnolia's General Increase

On Monday morning the Magnolia Petroleum Co., which pays a flat price for oil in every field it buys, based, it is supposed, on the weighted average gravity of the oil it purchases in the various fields, increased its price schedule 15 cents per barrel in every field but Darst Creek, Texas, which was raised 8 cents per barrel. The Magnolia made the following price announcement:

"Effective November 2, 1931, at 7 a. m. and until further notice our prices will be as follows per barrel at the wells: North Texas and North Central Texas, which only includes Burkburnett, Archer, Stephens, Henrietta, Electra, Comanche and Olden, 83 cents; Central Texas, which only includes Mexia, Wortham, Corsicana light, Panola County and Lytton Springs, 79 cents; East Texas district, 83 cents; West Texas, which includes Winkler, Crane, Upton, Howard, Glasscock and Mitchell Counties, 50 cents; Panhandle District of Texas: Gray County, 73 cents; Carson and Hutchinson Counties, 66 cents; Southwest Texas: Mirando, 75 cents; Darst Creek, 60 cents; Corsicana heavy and Luling 49 cents; Oklahoma: Cushing, Yale, Oklahoma City, Morrison, Wewoka, Seminole, 83 cents; Cement, Duncan, Walters, 75 cents; Hewitt and Graham, 67 cents; Healdton, 52 cents. Following the Magnolia announcement the White Eagle Oil Corp. announced a general 15-cent advance in its prices in Kansas, effective November 2. The latter company is a sister company to the Magnolia, purchasing only in Kansas.

On Monday the Empire Pipe Line Co. adopted the Continental price schedule effective on November 2 and likewise the Tidal Refining Co., which also posted 83 cents in East Texas, following the lead of the Magnolia Petroleum Co. in that field. The Sinclair Refining Co. posted the Continental Oil Co. price schedule in Oklahoma and the Magnolia's new price in East Texas. Panola Pipe Line Co. met the new East Texas price. Monday afternoon the Stanolind Crude Oil Purchasing Co. adopted the Continental price schedule in Kansas, Oklahoma and North and Central Texas. It does not post prices in East Central or East Texas.

The Skelly Oil Co., Derby Oil & Refining Co., and the Vickers Petroleum Co., which purchase oil in Kansas, adopted the Continental schedule in Kansas.

The Carter Oil Co., effective November 2, posted 53 cents for oil below 25 degrees; 55 cents for 25 degrees, with 2 cents added for each degree upward to 40 and above at 85 cents. The price applies in Oklahoma and Kansas. The Pure Oil Co. and Gypsy Oil Co. met the Carter Oil Co.'s price schedule in Oklahoma and Kansas, effective November 2.

Texas Company Extends Advances

On Tuesday morning, November 3, The Texas Company announced its postings, all of which were made effective as of November 2 and which spread the price advances to the Gulf Coast fields of Texas and Louisiana and to Lea County, New Mexico. The Texas Company adopted the Continental Oil Co.'s schedule in Oklahoma and North and Central Texas. In Carson and Hutchinson Counties, Texas, it posted 56 cents for oil below 35 degrees with 2 cents added for each degree upward to 40 degrees and above, which it posted at 68 cents. In Gray County it began with below 29 degrees at 61 cents, with 2 cents added for each degree upward to 40 degrees and above at 73 cents. The company made a flat price of 50 cents per barrel in Winkler, Crane and Upton Counties in West Texas and 50 cents in Lea County, New Mexico. In the Gulf Coast it posted Markham crude at 67 cents and for other coastal crudes bought on a gravity basis it posted below 25 gravity at 70 cents; 25 degrees, 71 cents, with 1 cent added for each degree upward to 40 and over, at 86 cents. The company does not post in East Central or East Texas.

The first announcement of a change in North Louisiana came from H. L. Hunt, Inc., which advanced Urania crude to 50 cents per barrel. It ships out by tank car. It was the first time that company has posted Urania crude, although it has bought much of it in the past.

Advance in Central West

In the old Central West fields the Ohio Oil Co., effective November 3, advanced Illinois, Princeton, Wooster and Western Kentucky 15 cents and Lima and Indiana 10 cents per barrel. In Kentucky the Stoll Refining Co. gladdened Hart County operators with a 10-cent increase, making that crude 60 cents per barrel, effective November 2.

Decrease in Pennsylvania Grade

While midwestern oil purchasers were advancing the crude market, the eastern buyers were cutting it in the Pennsylvania grade fields. The South Penn Oil Co. (Joseph Seep Purchasing Agency) and the Tide Water Pipe Co. reduced Bradford and Allegany crude 15 cents per barrel, effective November 2, making the price $2 per barrel, and the National Transit Co., Pennzoil Co. and the Pure Oil Co. lowered other grades of Pennsylvania grade oil produced in Pennsylvania, West Virginia and southeastern Ohio 10 cents per barrel.

On Tuesday the Phillips Petroleum Co.

(Continued on Page 103)

Governor Sterling for Acreage Unit

Tells Sponsors He Believes It Can and Will Be Put Into Effect. Gives Small Lease Operators Fair Deal

Special Correspondent

AUSTIN, Tex., Nov. 2.—Governor Sterling told Charles F. Roeser and the oil committee presenting the acreage unit production plan for East Texas that he "believes it can and will be put into effect," and said he will consider the plan carefully before deciding whether he shall put it into operation by executive order.

The plan would fix production at 80 barrels per 20-acre unit, allowing a minimum of 61 barrels per day from a one-acre lease unit and a maximum of 400 barrels from tracts 100 acres and up. It would render unnecessary drilling of more than one well per 100 acres, but would allow one well on each tract, no matter how small, with the production larger proportionately on the smaller leases.

More than 90 per cent of the East Texas land and royalty owners and operators are strongly in support of the plan now, the oil committee told Governor Sterling, and others who corrected their misunderstanding that it had no factor of compensation for the smaller leases were also getting behind it.

The plan dates back to September 15 for the subdivision of leases and tracts, the date fixed in the railroad commission's order originally limiting new drilling to 20-acre units under the new conservation law.

Of Tremendous Benefit

Governor Sterling repeatedly said he considered the plan a stabilization measure that would be of tremendous benefit, and that it "leaned back to give the small lease operators the best of the deal."

Mr. Roeser told Governor Sterling the plan would cut him down personally from 3,200 to 1,800 barrels a day; but that he welcomed it, because it would take off the requirement of the present 150-barrel per well proration, the drilling of numerous additional and costly wells. He said the repeated reduction of per well allowance would cut the field back within less than a year to the 80-barrel unit of this plan, and meantime anywhere from 3,000 to 6,000 more wells would be drilled.

J. Edgar Pew Approves

J. Edgar Pew, vice president of the Sun Oil Co., the only major company representative in the committee of seven presenting the plan to Governor Sterling, said the large companies will acquiesce in the plan, and that he personally has checked with many operators, large and small, in the field, and is yet to find the first who opposes it.

Governor Sterling read several telegrams of protest, which he said all were based on the misunderstanding that a one-acre lease would be allowed to produce only four barrels a day, or a 10-acre lease only 40 barrels.

"This seems to be practically a lifesaver for the little operator," Governor Sterling said. "At the minimum of 61 barrels per well, he can pay out and make money. I don't see how any man who wants to be fair can object to the position in which you put the one-acre man. I believe this plan can and will be put into effect. I will give it my most careful study.

"With reference to these telegrams I have received—some of them extremely discourteous—I want to say it is time they were trusting somebody, and having confidence that people are not trying to destroy the little man."

Production under the acreage-unit plan would be about 370,000 barrels a day, or the same as at present, and would not rise above 400,000 barrels when the undrilled leases were developed, the oil men said.

"It would take a lot of oil to pay for that $60,000,000 of unnecessary drilling," Governor Sterling commented as the committee left him.

Hearing for Objectors

At the request of Senator Thomas G. Pollard of Tyler, Governor Sterling has invited a small group of East Texas oil operators opposed to the acreage-unit production plan submitted by F. G. Roeser and others to come to Austin November 4 and lay their objections and recommendations before him. Action on the acreage-unit plan was not expected until after the conference Wednesday.

Senator Pollard issued a statement here on the eve of the conference of East Texas oil men with Gov. Ross S. Sterling to protest the proposed acreage-basis proration military order, in which he insisted the state regulations should cut all fields back to a comparable percentage of potential. He said production ranges from 68.5 per cent of potential in Big Lake down to 4 per cent in East Texas and 2½ per cent in Van Field.

During the interim between adoption of this plan, or the retention of the present per well basis plan, several operators and companies have halted all unnecessary drilling. One of the most active companies, which completed 27 wells this week, has ordered suspension of all tests which have not set surface casing, or tests which are not forced to drill by offsets. It also checked work on all locations which the company planned to drill, but which were not forced.

There are several hundred tracts below 20 acres in the district, 400 having been reported, but on careful checking there will probably be many more reported, and many of these tracts will offer different problems which will have to be solved and the owners satisfied before the plan can operate successfully.

One thing is certain, that East Texas is to be held to around 400,000 barrels per day, and this has no doubt been primarily responsible in the crude oil prices being raised in Texas and the Mid-Continent. Holding production to around 400,000 barrels has proven the success of curtailment by bringing the price up from 10 cents per barrel before martial law to 68 cents per barrel, then to the new price of 83 cents.

Interstate Compacts Vital Says Ames

Recent Developments in Texas and Oklahoma Indicate Gravity of Surplus Production Situation. Need for Clarification of Antitrust Enforcement

By C. B. Ames
Vice President, The Texas Company*

Oil and gas enter into the daily life of our people. There are 5,448,000 domestic consumers of natural gas and as many million consumers of gasoline and lubricating oils as there are automobiles. The oil and gas deposits are exhaustible and irreplaceable. There are no known substitutes for them at reasonable prices. Their migratory nature sets them apart from other natural resources and this peculiar characteristic demands peculiar treatment adequate to the subject.

The principal oil-producing states recognize this situation and have enacted statutes particularly applicable to these products. These statutes have been based on the power of the state to prevent waste and to protect each landowner's right to acquire his ratable share of the production. They have been most helpful and the legislatures and conservation agencies of these states are entitled to much credit. Waste, however, has not been prevented. The waste of gas has been appalling, has been permitted for years, and is being permitted today. Approximately 2,000,000,000 feet of gas is being blown into the air every day. In 1930 there were 5,448,000 domestic consumers of natural gas who used a total of 376,407,000,000 feet, or a little more than 1,000,000,000 feet per day. We are, therefore, blowing into the air approximately twice as much natural gas as is being used by 5,448,000 domestic consumers. This is a three-fold waste. It wastes the gas itself, but the gas which is being wasted is bringing to the surface an excessive quantity of oil which results in wasteful use and inadequate price, and in addition, this wasted gas is bringing to the surface its natural gasoline content which, in turn, is crowded into an unwilling market to the detriment of the industry as a whole.

Laws Have Failed

The laws, therefore, while designed to prevent waste, have failed to accomplish that purpose. This failure is caused by another failure of the law; namely, its failure to exercise adequate control over drilling; and this, in turn, is because of the failure to recognize the physical and economic fact that an oil and gas pool is a unit and should be controlled as such. Instead of this, the law pays greater regard to the artificial boundaries of the surface ownership than it does to the natural economic and physical boundaries of the oil and gas deposit. It permits the surface owners to drill into the deposit practically without limit and without regard to the orderly scientific and economic development of production. When one surface owner drills, the migratory nature of the oil and gas requires other surface owners to drill or suffer drainage, and this brings about the hasty, unnecessary and improper flush production which is today a fundamental problem confronting the oil-producing states as well as the industry.

The flush fields now developed are more than sufficient to supply the nation's requirements for a long time and unless the production is brought under control, unless supply and demand are balanced, the oil-producing states cannot expect an early return of prosperity to their greatest industry. But how is this result to be accomplished?

Honest differences of opinion, selfishness, ignorance and inertia combine to prevent agreement by the industry upon a sound course. The major companies themselves do not agree upon a program. Some important companies are willing to take advantage of the situation for their selfish interest. The owner of a 10-acre tract in East Texas is ignorant of the far-flung consequences of excessive production from his land. In addition to this, the real or fancied effect of the antitrust laws interferes with efforts of the industry to resist production.

Not Interstate

Under our constitutional system, this is not a subject for congressional legislation. If Congress has any authority, it rests upon the commerce clause of the Constitution, giving Congress power to regulate commerce between the states. Until the oil has been produced, it is not the subject of interstate commerce. The production of oil is mining and is purely a local and intrastate transaction. It is no more interstate commerce than is the production of wheat or coal or cotton. The decisions of the Supreme Court seem to establish this proposition.

In Hammer v. Dagenhart, 247 U. S. 251, (272) the Supreme Court says:

"The making of goods and the mining of coal are not commerce, nor does the fact that these things are to be afterwards shipped or used in interstate commerce, make their production a part thereof."

In the Coronado Coal Co. case, 259 U. S. 344, (407) the Supreme Court says:

"Coal mining is not interstate commerce, and the power of Congress does not extend to its regulation as such."

In Heisler v. Thomas Colliery Co., 260 U. S. 245, (249) the Supreme Court says:

"The reach and consequence of the contention repel its acceptance. If the possibility, or, indeed, certainty of exportation of a product or article from a state determines it to be in interstate commerce before the commencement of its movement from the state, it would seem to follow that it is in such commerce from the instant of its growth or production, and in the case of coals, as they lie in the ground. The result would be curious. It would nationalize and withdraw from state jurisdiction and deliver to Federal commercial control the fruits of California and the South, the wheat of the West and its meats, the cotton of the South, the shoes of Massachusetts, and the woolen industries of other states, at the very inception of their production or growth, that is the fruits unpicked, the cotton and wheat ungathered, hides and flesh of cattle yet 'on the hoof,' wool yet unshorn, and coal yet unmined, because they are in varying percentages destined for and sure to be exported to states other than those of their production."

Single State Limited

The power of a single state ends with its own boundaries. It can control production within its boundaries but in order to be effective, the control must be more comprehensive. This has been demonstarted during the past few years when Oklahoma has been controlling its production to harmonize with market demand, but Texas and California have not. The result has been during the present year a complete collapse of the price structure in Oklahoma as well as elsewhere notwithstanding Oklahoma's effective control of its own production.

Adaquate control must be secured, if secured at all, by agreement between the principal oil-producing states, and this must be done by constitutional methods and not by armed forces.

The Constitution of the United States provides that:

"No state shall, without the consent of Congress . . . enter into any agreement or compact with another state . ."

The subject of an interstate compact or agreement for regulating oil production is not new. The Federal Oil Conservation Board in its report of September 6, 1926, said:

"There should be active co-operation between the oil-producing states in the study of proposed legislation to the end that uniform laws may be enacted, or even agreements or compacts entered into between the states, subject to ratification by Congress."

In 1929 the board again said:

"The problem appears to the board, therefore, due to the legal inhibitions, to be one in the real solution of which action must be secured from the different states. The board recognizes that individual state action without co-ordination would not cover the question, but with a view to bringing about such a

(Continued on Page 99)

*Before conference on relation of laws and business at Schools of Law, Commerce, Accounts and Finance, New York University.

Belief Grows Reeser Will be Reelected

Position as Arbiter in California Would Fit in Perfectly With Duties as Head of Institute

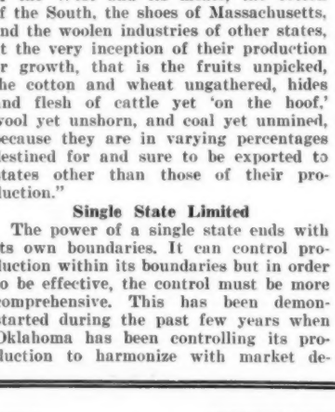
By Andrew M. Rowley

As oil men throughout the United States are preparing to go to Chicago to attend the annual convention of the American Petroleum Institute in the Stevens Hotel next week, the belief grows that E. B. Reeser, president of the Barnsdall Corp., will be re-elected president of the Institute.

Mr. Reeser does not desire to accept a fourth term. He has worked harder during his term of office of three years as head of the Institute, probably, than any other president that organization has had. As he says, "I have not played a game of golf in three years. I have no time for relaxation. My home for three years has been in Pullmans. I do not want the position again, for if I were re-elected, I would naturally have to carry on as in the past and that would mean a continuance of this constant jumping around the country in trains."

But oil men from the Atlantic to the Pacific and from the Gulf to Canada, while admitting what Mr. Reeser says is true, contend the industry at this time, possibly more than ever, needs as the head of the Institute a man with energy and foresight; one who commands the respect of all elements and organizations; and one who will devote his time to carrying out the many plans under way for solving problems confronting the oil business; and who can direct the co-ordination of the benefits already derived and the improvements already under way. They feel Mr. Reeser is that man and that as he has largely been instrumental in the success attending efforts to stabilize production of crude oil and the manufacture of gasoline, he should continue as president of the Institute during this period of improved conditions.

The position as arbiter of the petroleum industry in California, offered Mr. Reeser, would fit in perfectly with his duties as president of the American Petroleum Institute. At no point would the two positions conflict, in fact, the two go together so well leading executives of the industry are hoping favorable consideration of the California offer will cause Mr. Reeser to weaken in his desire not to accept another term as president of the Institute.



E. B. Reeser

While there are many local problems in California, matters affecting the industry in that state as a whole are so closely related to problems affecting the industry of the entire country, the position as arbiter in California and president of the Institute would permit one man to co-ordinate efforts at stabilization more quickly and would facilitate all actions looking towards the common good for the industry as a whole.

Mr. Reeser has not as yet decided whether he will accept the California offer, but his friends feel final arrangements for his acceptance will be made probably during the meeting of the American Petroleum Institute in Chicago next week. In fact, a committee of California oil men will confer with Mr. Reeser on the matter in Chicago and they are hopeful definite announcement of his decision to take the position will be made the following week. Reports from Los Angeles state offices already are being arranged for Mr. Reeser when he takes the position offered him.

California oil men feel Mr. Reeser should again accept the presidency of the Institute and as delegations from California start to Chicago it is stated these men will urge him strongly to take both positions—presidency of the Institute and arbiter in California.

Tunnel for Pipe Line Constructed Under Houston Channel

* * * * * *

By Neil Williams

HOUSTON, Tex., Nov. 2.—A concrete tunnel under the Houston Ship Channel, which will provide a permanent conduit for pipe lines crossing the channnel, was completed this week by the Sinclair Texas Pipe Line Co. In view of the hazards and difficulties of the conventional crossing the Sinclair project is of particular interest as it naturally will facilitate future crossings as well as upkeep of lines using the tube.

Construction of the tunnel was done under contract by the Subway Engineering Co. of Chicago, which also built a similar tunnel for the Sinclair Pipe Line Co. at East Chicago, Ind., several years ago. These two are the only such projects of any size which ever have been undertaken for the exclusive use of pipe lines. E. A. Clark, president of the Chicago company, and his brother, L. L. Clark, were actively in charge of the construction. K. K. Kreamer, engineer for the Sinclair companies, also was on the job as representative of his company under the general supervision of B. G. von Roeder, head of the engineering department, Houston.

The Houston Ship Channel has presented a number of obstacles in the past for pipe line crossings. Unlike most river crossings, lines cannot be laid directly on the bottom but must be buried in a trench. Regulations provide that a line be at least 15 feet below the bottom or more than 45 feet below mean low tide. This is necessary in view of future dredging operations. Lines placed directly on the bottom not only would interfere with dredging but in turn they would run the risk of being broken frequently by being struck by passing boats or being caught by a dragging anchor.

* * * *

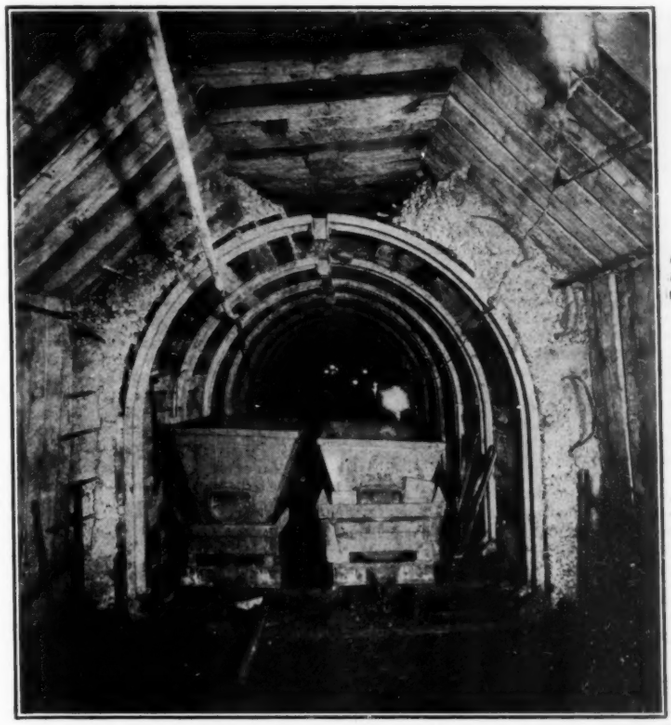
To dredge a trench across the bottom of the channel large enough to bury a line adequately is a tedious undertaking in itself. Much of the bottom of the channel is composed of shifting quick sand and sometimes a trench will fill up nearly as rapidly as dredged out, and before a line can be laid.

Stop All Traffic

In actual laying of a line all traffic on the channel must be stopped while the work is being done. Permission for this must be obtained from the port commission which allots a maximum time, usually four hours, in which the crossing must be completed. To get a permit a pipe line company also agrees to assume all claims for damages which may arise from delays in shipping.

Because of the fact that all this procedure must be duplicated every time a line needs to be repaired or at any time a company wished to lay an additional or larger line to increase its capacity makes the usual type of crossing an endless source of trouble and hazard. The shifting bottom of the channel is far from a stable resting place and even when a line is buried according to regulations it is possible a line will become exposed gradually and be subject to breakage. In the event of possible widening or deepening of the channel it is likely that all lines would have to be raised and then relaid in new beds.

The new tunnel will serve to overcome all these problems. With its top 24 feet below the present bottom of the channel at its deepest point the conduit is beyond reach of any dredging or shipping hazard. At the same time its use eliminates all difficulties of laying or raising pipe across the channel. Large enough for the entrance of workmen, it furnishes ready access at any time for repairs, replacements or laying of new lines. In addition important savings are expected to be effected in upkeep of lines in that the pipe, strung along the concrete floor or hung securely from the sides, will not be subjected to the strain imposed on surface-laid pipe nor will there be any chance for corrosion from action of the soil.



Pipeline conduit of Sinclair Pipe Line Co. under Houston Ship Channel at Houston. View shows tunnel under construction.

* * * * * * * *

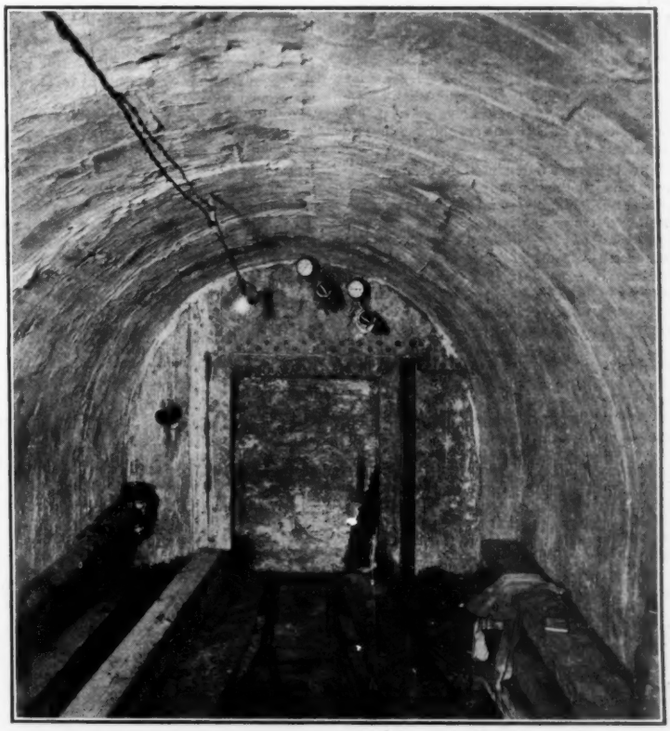
Large Concrete Tube

The crossing under the channel is at a place adjacent to the terminal and refinery of Sinclair Refining Co., just east of Houston. The passage consists of an inverted "U" shaped, reinforced concrete walled tube, 600 feet long, 8 feet from bottom to top and side to side (inside measurements), connecting the bottoms of two vertical cylindrical shafts which provide the outlet, one on each side of the channel.

The tunneling involved no particular engineering problem other than what

(Continued on Page 100)

General view of Houston Ship Channel at Sinclair Refining Co.'s refinery where Sinclair Pipe Line Co. has tunneled under the channel. At right is the opening to the vertical shaft, through which entrance to the tunnel is made. The shaft opening on the north side of the channel is at a point directly opposite, shown near where two signs appear in the picture.



View of Sinclair Pipe Line Co. pipeline conduit showing entrance to air lock chamber.

Sherman Law an Economic Impediment

Statute Designed to Promote Business of the Country Has Become an Agent That Retards Recovery of Business

By Oscar Sutro
Vice President and General Counsel, Standard Oil Co. of California*

It would be unreasonable to attribute our present economic distress to the Sherman law; it would be absurd to ignore its effect in promoting that distress. It has become a force hostile to our economic welfare. We can no longer overlook it. A statute designed to promote the business of the country has become an incubus that retards the recovery of business; a statute which by its title is "an act to protect trade and commerce against unlawful restraints and monopolies," has become a statute that renders business defenseless in the face of demoralization through economic laws and makes it the victim of fierce and destructive competition. And so a statute designed to enforce a sound public policy has become a law destructive of the public interest. It is proposed to amend the act and to relieve American industry from its prejudicial operation in all cases where the public interest permits.

The act provides:

"Section 1: Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several states, or with foreign nations, is declared to be illegal. Every person who shall make any such contract or engage in any such combination or conspiracy, shall be deemed guilty of a misdemeanor, and, on conviction thereof, shall be punished by fine not exceeding $5,000, or by imprisonment not exceeding one year, or by both said punishments, in the discretion of the court.

"Section 2: Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several states, or with foreign nations, shall be deemed guilty of a misdemeanor, and, on conviction thereof, shall be punished by fine not exceeding $5,000, or by imprisonment not exceeding one year, or by both said punishments, in the discretion of the court."

Law Has Disastrous Sweep

Out of the specific purpose which inspired the enactment of this legislation there has been developed by judicial construction and administrative interpretation a body of law having a wide and disastrous sweep.

The failure to distinguish between restrictions upon competition—often beneficial and desirable—and contracts in restraint of trade has led to an unfortunate expansion of the law. Conspiracy has been confused with combination. "Combination is a generic term of which conspiracy is the illegal specimen." And so new concepts have been grafted on the laws against restraints of trade.

It may be asked why the "rule of reason" does not relieve business of all the embarrassments which the proposed amendment to the statutes will relieve. Unfortunately trade agreements, restraints of competition, and price fixing agreements have at various times been condemned under the sweeping language of the statute, even though their reasonableness could not be questioned and where evidence of injury to the public interest was not apparent. As interpreted, both by the administration and by the courts, the rule of reason has not sanctioned agreements to restrain competition, agreements to reduce prices, or agreements to limit production.

The object of the present proposal is to free American business from the uncertainties and restrictions of the Sherman law, so that it may deal with the fierce competition and disastrous price conditions of the day. The proposal is that the law be amended by adding a clause as follows:

"Nothing in this act contained shall be deemed to render illegal any contract, combination, trade agreement or trade practice approved by the Federal Trade Commission after finding by the commission that the same is not an unreasonable restraint of competition or of trade, and every such contract, combination, trade agreement or trade practice shall be deemed to be valid while such approval remains in force and unrevoked."

The thought is that agreements mutually to reduce surplus and to restrict the output of manufactured commodities, agreements mutually to curtail and prorate the production of natural resources, agreements to stabilize prices to provide a fair return to the producer as well as a fair price to the consumer, may be sanctioned by the appropriate authority, so long as they do not work oppressively and do not promote monopoly.

Prices Forced Below Cost of Production

The Sherman act, as construed, assumes the economic premise that if given free rein the law of supply and demand will create a fair price to all concerned. The fact is that free competition has forced prices to below the cost of production.

Demand will result in regulation of supply, unless artificial restraints such as our antitrust laws are interposed. If excess production is not regulated and restricted by agreement, it can be limited to the demand only by ruinous and destructive competition. This has been the exact case in American business today. A greatly expanded producing capacity is not accompanied by a corresponding demand. Agreements to curtail production and to relate output to demand are believed to be taboo under the law. Producers and manufacturers of all classes continue operations and glut an overcrowded market. Each joins in the scramble for a share of an inadequate demand. The effort to secure a fair return on invested capital is soon abandoned. Finally business is done on an out-of-pocket basis—production continues and the effort is to get a new dollar for an old. When the demoralization reaches the stage where that is no longer possible the doors close and the sheriff steps in. The producer or manufacturer who could have lived under an agreement giving him a percentage of the market is out of business. Secretary Work well said that "the bankrupt route to low prices is not a safe highway."

Production of crude oil and oil refining operations afford a good example. In Texas the antitrust laws prohibit combinations of producers. The result is that even in the face of a great overproduction new oil wells have been extensively drilled and operated on the basis of out-of-pocket expense—or less. Oil has been produced and sold at prices that do not return the cost of production, and a great natural resource becomes a total economic loss. Similarly, the oil refining business of the country illustrates the point. Agreements to limit output and to market co-

(Continued on Page 99)

*Address before Antitrust Law Conference at New York University.

Tide Water Installs Mammoth Tower

New Unit 93 Feet High and 12 Feet in Diameter With Working Pressure of 150 Pounds

By A. E. Mockler
New York Bureau, The Oil and Gas Journal

NEW YORK, Nov. 3.—One of the most interesting refinery construction jobs on record is now in progress at the Bayonne refinery of the Tide Water Oil Co., where the Lummus Co., refinery engineers and constructors, is building a cracking coil which is said to have the largest throughput of any cracking unit so far constructed. This unit involves the use of a bubble tower 12 feet diameter by 93 feet high, constructed for an internal working pressure of 150 pounds per square inch. The weight of the bubble tower is 360,000 pounds.

While this tower might have been assembled in the field by either riveting or welding the sections together, the Lummus Co. engineers decided that the advantages of a completely shop welded job were so great as to justify handling the shipment and erection of this unusually heavy vessel in a single fabricated unit. By completely fabricating the tower in the shop, it was decided, it would be possible to X-ray all welded seams and to stress anneal the entire vessel.

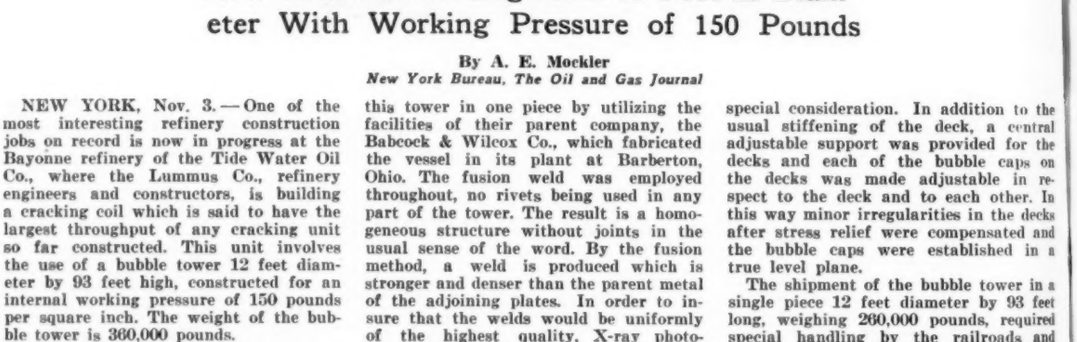
The Lummus Co. was able to furnish this tower in one piece by utilizing the facilities of their parent company, the Babcock & Wilcox Co., which fabricated the vessel in its plant at Barberton, Ohio. The fusion weld was employed throughout, no rivets being used in any part of the tower. The result is a homogeneous structure without joints in the usual sense of the word. By the fusion method, a weld is produced which is stronger and denser than the parent metal of the adjoining plates. In order to insure that the welds would be uniformly of the highest quality, X-ray photographs were taken of every weld, employing a special X-ray machine operating at 230,000 volts.

When the tower was completed it was moved into a specially constructed annealing furnace where the temperature was raised uniformly to 1,200° F., maintained for two and one-half hours at that temperature and then slowly and uniformly cooled.

Because of the great size of the tower, the question of maintaining exact level for the decks or bubble trays required special consideration. In addition to the usual stiffening of the deck, a central adjustable support was provided for the decks and each of the bubble caps on the decks was made adjustable in respect to the deck and to each other. In this way minor irregularities in the decks after stress relief were compensated and the bubble caps were established in a true level plane.

The shipment of the bubble tower in a single piece 12 feet diameter by 93 feet long, weighing 260,000 pounds, required special handling by the railroads and very careful checking of structures and clearances throughout the routing. The weight to be handled was beyond the capacity of the ordinary flat cars. Four special depressed center steel cars were built by the Erie for handling gun shipments. Two of these cars, which have a capacity each of 270,000 pounds, were utilized for shipment of the tower. The tower was mounted on steel bolsters at the center of each of the cars. Each of the bolsters was provided with a king

(Continued on Page 101)



Delivering tower at Bayonne, N. J., refinery of the Tide Water Oil Co.

Community Lease Offers Better Method of Development

* * * * * *

By Thomas M. Galey

If the advantages of the community form of lease for oil and gas operations were understood better there is no question but that it would be adopted much more generally. It is of the utmost importance in plans for the development of a prospective oil or gas-bearing area that the owners of the land encourage the entry of responsible and experienced operators by granting what constitutes a time-limited license to test a restricted area with a guarantee that leases will be delivered to the operator if the drilling of a well is commenced. This promotes enterprise and tends to discourage unfair speculation, especially if the landowners hold together in groups. There must be co-operation and unselfishness among the landowners, together with confidence in the integrity of the operator.

Careless leasing of land sometimes is followed by the discovery that it can be held for long periods by the lessee without test wells being drilled or rentals being paid. Frequently scalpers will dash into a neighborhood and snatch a few of the easy leases here and there in the expectation that a well is about to be drilled in the vicinity. This causes a responsible operator to shun the neighborhood for he is not going to spend his money and effort in furthering some other fellow's game. Co-operation and group leasing avoid this danger. Be suspicious of a windy fellow who wants thousands of acres and promises many test wells which "his people" propose to drill. You generally can test his integrity by obligating him to execute a contract which is separate from the lease and requires the commencement of drilling within a limited time. The lease and contract then are put into the hands of a third person or a bank, as escrow agent. The man with the glittering promises usually blows up, but now and then one raises a little fund by the sale of interests so that a well is completed, usually a dry hole. If the lease is in escrow there are no complications, but if it has been recorded its removal becomes a nuisance and expense to the landowner.

Two Forms of Leases

There are two forms of leases, the standard form which has been used for years and the community form, which is of more recent use. These two forms are exactly the same except that in the community form the operating and royalty benefits and the residence gas supply are communal.

The standard form leases land as an individual unit in its operation and benefits. Its greatest disadvantage is that there is no organized co-operative effort among landowners which would attract and promote effective enterprise by the operators. Overhead expense, rentals and drilling requirements are far more apt to discourage operators from tackling a group of standard form leases, particularly in an area into which pipe lines have not yet been built, a so-called "wildcat" area. Frequently land is leased on the standard form and in good faith and nothing is ever done in the way of drilling, to the disgust of the landowners. A frequent reason is that the co-partners of the promoter, who usually join with him in his ventures, had balked at the outlook because of the rental or drilling requirements as set forth on a large number of individual leases. Pioneering effort is generally done by individuals and the big companies come in after success is assured.

The community form of lease largely solves the difficulties of the old standard form. It was encouraged by Henry L. Doherty of the Empire Companies and if applied universally in prospective oil and gas-producing areas, it will speed up the arrival of a major gas system. It has the time-tried rental clause and all the other essentials, but has in addition the communal feature of operating and royalty payment. That is the only difference but the benefits are great.

* * * *

Attractive to Operators

Under this form operators are willing to test out brand new territory and to develop areas which are cut up into many small tracts, something which cannot be done effectively under the old standard form. Under the standard form, offset laws compel an operator to drill uneconomic offset wells so that his neighbor will not be deprived of his rightful share of the gas. Three or four wells may be required where one would serve with greater profit. The result is a rapid pressure decline, the drowning out of the gas by salt water and the total loss of all the wells long before all of the gas has been taken out. One well to 40 acres is the proper spacing for maximum recovery. Pipe line companies will not build costly pipe lines to localities where uneconomic lease conditions cause wells to be crowded, causing short life to the field. Under the community form of lease wells may be spaced one to the 40 acres regardless of land lines and in fairness to all. Further, locations may be more conveniently made on untilled or unused ground where they will not interfere with farm work.

A man who desires to lease his land for drilling should get into conference with his neighbors. A "community block" should include about 640 acres of land, except in strictly wildcat territory where the blocks may be larger. The lease should have a term of five years and a rental to commence at the end of the first year. This rental should be 25 cents, 50 cents or $1 per acre per year, depending on the isolation of the area, the marketing pipe line situation and the nature of the discoveries and competition. The royalty is one-eighth of the oil and gas, payable quarterly where gas only is found. The lease is signed by husband and wife and duly acknowldeged before a notary public.

The operator does not sign because he does not own the land. It is surprising that occasionally, in newer districts, an attorney unfamiliar with leasing operations will advise his client to insist that the operator also sign the lease.

Fractional Unit In Community Block

The community lease describes the land and states that it is a fractional unit in a larger area to be known as a community block which contains a certain number of acres which are clearly set forth by further description. The operator ordinarily is not allowed to have possession of the lease until he has commenced a well on some part of the block. The relation of any one lease to all the leases in the block is thus clearly established.

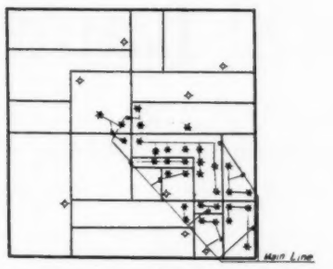
A separate agreement called an "escrow agreement" then is executed by both the landowners and the operator. It states that they have agreed to place the lease in escrow in a bank with instructions to the banker to return the lease to the landowner if a well is not commenced within the time limit set, say six months or a year, depending on general conditions. If the well is commenced within the time limit, the banker is instructed to deliver the lease to the operator. The operator will not go to the expense of recording the leases unless he gets valuable production. If the test well is a dry hole the operator must continue drilling more wells or pay rental in order to maintain his possession of the various leases in the block, or he will hand the leases back to the landowners, which cancels all conditions. Big companies are more apt to carry leases on a rental basis, but individuals seldom do in hard times.

The landowners in a locality need never hesitate to lease as many blocks to any one operator or promoter as he may want so long as he is willing to obligate himself to drill test wells by escrow agreement. By this means the country gains far more rapid testing because land is not tied up for long periods for speculation. To lease liberally and promptly under these conditions of security is good business. Promoters often can render a valuable service to a community for they are business starters. An oil and gas lease containing the conditions here suggested insures prompt action. If production is found there can be no objection to recording. Land in Oklahoma and Kansas has been leased as often as 20 or 30 times and the landowners derive much profit out of the leasing alone.

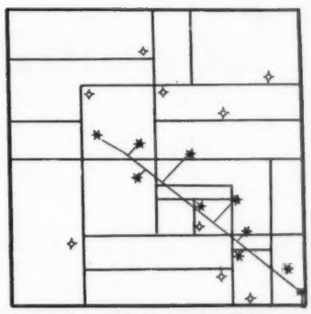
Dry Hole Fatal

Under the standard form of lease a dry hole on a man's land or in its vicin-

(Continued on Page 82)



Thirty-two wells required, with uneconomic drilling and field layout, under standard lease form.



Nine wells, with economic drilling and field layout, sufficient under community lease form.

The above charts contrast the two forms of lease on a block of 640 acres where there are 20 separate landowners. The same situation is presented with a smaller number of landowners. The 9 wells will recover more gas than the 32 because of slow depletion and maintenance of rock pressure which holds back the salt water. The black stars are producing wells, light stars dry holes and the black squares are meters.

* * * * * * * *

ACETYLENE ASSOCIATION WILL HOLD CONVENTION IN CHICAGO NEXT WEEK

The most comprehensive discussion ever given of methods for testing oxy-acetylene welded joints will be one feature of the thirty-second annual convention of the International Acetylene Association at the Congress Hotel, Chicago, November 11, 12, and 13.

At the weld test session, November 11 at 8:15 p.m., Prof. H. L. Whittemore of the United States Bureau of Standards, will speak on the importance of tests to welders and to users and makers of welded products. There will be a dramatized demonstration of visual and stethoscopic tests; hammer, bending, tension and hardness tests; invisible ray tests; specific gravity, compression and internal pressure tests.

At this session, a weld-strength estimating contest will be held. Three welded specimens will be displayed, and every one present will have a chance to estimate their average tensile strength.

Among the timely speeches at this session will be "Today's Opportunities for Welding-Trained Men in the Metal Working Trades and Industries," by Dr. S. Lewis Land, educational director of the Heating and Piping Contractors National Association; and "Training Gas Welders for the Job," by Thomas Jones, superintendent of welding for the Illinois Steel Co.

The other sessions will cover every important field where oxy-acetylene welding is used, opening on November 11 at 2 p.m. with a talk by Rufus C. Dawes, president, of "A Century of Progress."

Prof. Comfort A. Adams, of Harvard, and G. O. Carter, consulting engineer, will discuss the welding situation in general.

The use of the oxy-acetylene process in transportation industries will be treated on November 12 at 10 a.m. Welding on the U. S. Airship Akron, scrapping railroad cars by the production line method with the oxy-acetylene blowpipe, and "Present Practices in Rail Bonding."

At 2:30, November 12, outstanding authorities on welded piping will discuss welded heating, water and air-conditioning systems; overland oil and gas lines; and the use of special fittings for welded installations.

The Chemical Industry Session, November 13 at 10 a.m., will deal with high-temperature chemical piping; methods of welding the new corrosion-resisting alloys; and welded power piping. Charles Gorton, chairman of the Uniform Boiler Law Society, will explain the use of gas welding under the revised A.S.M.E. boiler code.

The 2 o'clock meeting will treat engineering education in welding, with W. H. Mager, of the General Motors Institute of Technology, speaking on this topic. Prof. S. C. Hollister, of Purdue University, will discuss "What the Welding Industry Must Do to Receive Engineering Acceptance More Rapidly."

At this session the oxy-acetylene committee report describing the year's progress in the use of welding will be presented. Admission to any or all sessions of the convention is free, and anyone interested in hearing up-to-the-minute discussions on the above topics may obtain tickets at the convention headquarters in the Congress Hotel or from the International Acetylene Association, 30 East Forty-second Street, New York.

Leasing Oil Land Presents Problems

Securing Clear Titles to Land Has Presented Many Interesting and Amusing Incidents, Especially in the East Texas Field

By L. G. E. Bignell
Petroleum Engineering Editor

With the development of a means for recovering crude oil from the reservoir rocks underground there came into common practice the leasing of land from the owner for the purpose of exploring it with the drill for its underground resources. Oil leasing early became a recognized business and has developed with the constant growth of the petroleum industry and moved westward along with the drilling for oil in Ohio, Indiana and Illinois and finally crossed the Mississippi River to take in the Mid-Continent area.

Land may be leased by the lease broker who sells his rights to companies who drill for oil, or he may organize companies to prospect for it. Later there was established in the oil company's organization a land and lease department where all matters pertaining to the company's lease holdings were handled.

If it were possible to collect the many strange adventures of the lease man in securing title to the various properties scattered over all parts of the United States it would undoubtedly make strange and interesting reading. This not being possible this story will be confined largely to East Texas where the recently discovered new oil field is bringing to light a number of most interesting conditions.

East Texas Interesting

The early history of East Texas is in itself interesting because it was first considered as within the boundaries of the Louisiana Purchase, but later when the western boundary for that purchase was moved from the Rio Grande eastward to the Sabine River, the area in which the new oil field lies was in Spanish territory from 1819 until the revolution against Spain was started in 1821 when it became Mexican territory.

In 1822 Stephen A. Austin led a large band of Americans into Texas for the purpose of colonization. The Americans in Texas had become so numerous by 1830 that Mexico forbade further immigration and began a systematic campaign of persecution against the Americans. This led to the revolt against Mexico in 1836 when Gen. Sam Houston defeated Santa Anna at San Jacinto and the independent government of Texas was set up with General Houston as president.

Land, of which there is about 265,896 square miles in Texas, was cheap and settlers moving in from the East settled the eastern part early and for the greater part it was divided into grants and large plantations. Before the Civil War much of the land was granted under patent issued by the governor and after the war these tracts were in many cases subdivided among both whites and former negro slaves.

Texas Land Laws Liberal

To promote the settlement on and cultivation of this land the Texas land laws were quite lenient and one provision was to the effect that a person living openly upon any tract for 10 years' time might prove his claim to it at the end of that period by applying for deed to the proper court.

This provision has worked its hardship upon many who have been nonresident owners of Texas land and it is reported that in East Texas one such owner who had been paying his taxes upon land in what is now the East Texas Pool for a number of years found when he came on to investigate that another had been living upon it openly for the required number of years to prove his ownership of the tract. This resident had also paid taxes upon the same plot upon which the nonresident had paid taxes, but it is understood that the nonresident could not secure any refund of taxes and could not secure title to his property.

One of the major companies desired a block of land for a pump station and when the land man went to the owner to purchase it difficulty was encountered in locating the owner's copy of the patent that had been granted by Governor Henderson in 1844. It had not been recorded in the office of the county clerk of the county in which the land is located, but upon making inquiry it was learned that there were some old papers in the family trunk that had been handed down from one generation to another.

Examination of those papers disclosed the missing land patent which was promptly recorded along with some 14 deeds that were also stored in this trunk and the sale completed.

In another instance it is reported the land man found the title to one piece of property in the oil pool was not complete and about 40 years of records were missing. This land man was wise to the ways of farm owners and asked if they did not have an old trunk or strong box somewhere about the house and as an old trunk was found examination disclosed six unrecorded deeds which made the records for the 40 missing years complete in every detail.

The practice of hiding deeds and other papers away in the house was the result of lack of ready money to pay recording fees which in many cases amounted to nearly as much as the land value. Because of this lack of recording of deeds it was very common practice among landowners to simply make an exchange of deeds for their respective pieces of property and consider that by so doing the title was passing hands. No new deeds were made, the old ones simply exchanged and the parties moved from one piece of land to the other and went on with their farming.

Land values were very low in the days after the Civil War and it is reported that trading of land for livestock, farm implements, wagons, harness and many other articles was very common practice. Because of this deeds were often missing, but if the party acquiring the land by such trading lived upon the property the required 10 years his title to it could be easily established in the court when necessary.

With the discovery of oil in East Texas such proof has been necessary in many cases, especially among negro tenants on small tracts, but it was usually possible to bring the necessary witness to court to establish the required period of residence upon the land in question.

It is stated that in one deed to property that was leased during the recent oil boom one of the provisions specified that a keg of whiskey was the consideration given for the land.

Attempts at fraud have occurred since this area has been found productive of oil and in one instance a man tried to lease a tract of land to an oil company and presented a deed signed by a man whom it afterward developed had been dead four years prior to the date he was supposed to have signed the paper.

Negro Property Much Involved

A large portion of the land in East Texas oil fields is occupied by negroes, many of them direct descendants of the former slaves. This fact has brought about a great number of claimants for interests in land after it has become valuable as oil property.

It is recorded in one instance that a negro died in 1920 and his property was divided among seven heirs who lived in that part of the country and satisfactory settlement made. Later oil was found in this vicinity and this land was leased by one of the operators and shortly thereafter an eighth negro heir put in his appearance. He was a son and had been away from home and unheard of by any of the family since 1891, but quickly turned up when he heard about the discovery of oil on the old home place.

On one deed it was necessary to secure the signature of 112 owners of interests in the property that was being leased.

In another instance it is a matter of record that an old negro slave liberated after the war acquired a small tract of land and by hard work and thrift added to it until his heirs now living over the oil pool have between 700 and 800 acres of very choice land and are enjoying large royalties.

This mention of royalty brings to mind the story about the many instances where the negro owner of land has sold, say, five-fourths of the royalty he owned to the oil under his land. It is stated that a good deal of royalty money is being held up by the oil purchasers because they have found that there are more claimants to interest in it than there are shares. The negroes are not the only offenders in this particular for it has been found that overly anxious royalty buyers have paid out money for shares of royalty that the owner could not deliver because he had sold more than he owned.

For a time much royalty money was withheld awaiting perfection of title to the land, the delay in having abstracts completed, and in having deeds filed in the county clerk's office. There is still some congestion in the clerk's office in the East Texas counties but most of the land titles have been cleared up and most of the delayed royalty payments now come under the classification of overselling of royalty interests by the landowner.

Many Court Cases

It is only natural that land which be-

(Continued on Page 101)

OPERATION OF VAN POOL AS UNIT SHOWS POSSIBILITIES OF PLAN

By L. G. E. Bignell

The recent order issued by the Railroad Commission of Texas covering conservation of oil and gas from the Van Pool, Van Zandt County, Texas, indicates quite clearly that it is possible to operate an oil pool as one unit and follow both the letter and intention of the new conservation laws of Texas. This pool, being under one management, has some advantages over other areas where the several owners are not always in accord as to methods of operation, and the report prepared for the Railroad Commission by the production engineering department of the Pure Oil Co., Fort Worth, Tex., is very enlightening in its scope of data available and indicates the excellent work done by the engineers and production men in handling this entire pool in the best technical manner.

The order recites the requirements of the law and the general conditions existing in the Van Pool and outlines the necessity of restricted rate of production of gas and oil to prevent too rapid encroachment of water and the trapping off and waste of oil underground, that would materially reduce the ultimate recovery of the oil. It also points out the many other advantages to be gained by controlled rate of production and issues the order permitting the oil to be extracted at the rate of 50,000 bbls. per day for the entire field, effective until April 16, 1932, unless the Railroad Commission shall find reasons for changing or modifying it.

In preparing the evidence, R. B. Kelly, production engineer for the Pure Oil Co., Fort Worth, Tex., has prepared a map of the entire field showing the contour lines of equal Woodbine formation thickness above a subsea datum of 2,500 feet. In a tabulation of the sand thickness in another exhibit prepared for the hearing the Woodbine sand average thickness is from 58.5 to 598.7 feet in the Joint Account Lease and from 42 to 421.8 feet in the Carroll district.

The total productive acreage listed in this report for both areas is 4,148.65 acres and the total productive sand equals 1,171,409.62 acre feet for both the Joint Account Lease and the Carroll district leases. This figure is secured by multiplying together the total productive acres of each lease by the average Woodbine thickness of each lease.

The next column in the report shows the sharing interests of each lease which is the percentage of each lease with relation to the total acre-feet of the field.

The daily production in barrels to which each lease in the field is entitled of a total daily allowable outlet of 50,000 bbls. is then estimated before certain adjustments are made and the adjustments figured for 25-bbl. minimum and leases incapable of producing allowable; and adjustment from daily allowable to offset wells; for past withdrawals, and the final column shows the amount of oil that may be run from each lease.

The work that has been done to secure these data indicates that it is possible to allocate production fairly among a number of interests in a common pool and under one management it is also possible to so operate wells over this common pool as to control water movement underground and produce the oil with low gas-oil ratio and in this way conserve the energy stored up in the reservoir and ultimately to secure a maximum amount of oil from the whole area.

While the Pure Oil Co. owns over 70 per cent of the total acreage in the Van Pool and operates the properties, the Humble Oil & Refining Co., Shell Petroleum Corp., Sun Oil Co. and The Texas Company, together with several smaller interests, own the balance of the acreage.

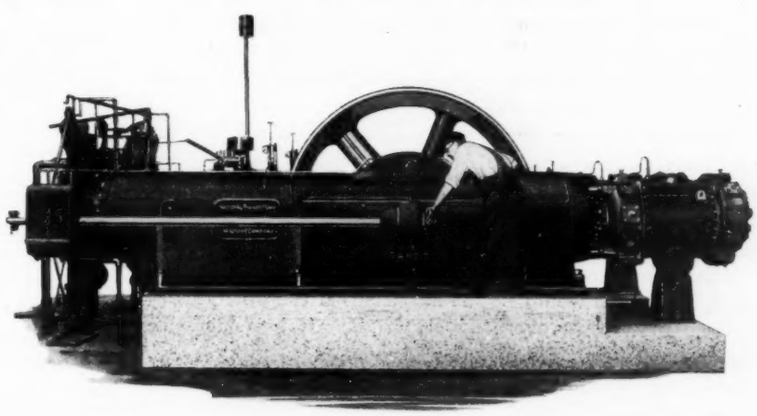
This practical demonstration of unit operation of a common pool of oil and gas is particularly interesting at this time in view of the movement under way to attempt to secure favorable legislation in the several oil-producing states that will recognize the rights of the owner of the surface to the oil and gas beneath his property while still in the ground. Legislators and lawyers have asked if it would be possible for production men and engineers to equitably distribute oil and gas from common pools, and the work of the technical staff of the Pure Oil Co. in preparing this report for the Railroad Commission of Texas seems to be a very definite answer that it can and is being done.

Will Your Compressing Equipment Meet the Increased Demand for Gas this Winter ?

WITH the demand for natural gas increasing each year together with the great number of domestic gas appliances which are being sold, many natural gas companies find that during the winter months their compressing equipment is being taxed to the limit. During the severe cold spells, this often causes a gas shortage due to the lack of modern compressing equipment.

Gas shortages during the winter mean not only a hardship to the consumer but also a loss to the producer as well.

If you figure that you will need more gas compressing equipment this winter, remember that TRANSIT has in stock now, ready for prompt shipment, a few 17 x 24" Four Cycle, 200 H. P. Gas Engine Compressors complete with TRANSIT Compressor Equipment.



REFINERY PUMPS
FOR HOT OIL
and every other refinery service
TRANSIT (CURTIS)
ROTARY PUMPS
PIPE LINE PUMPS

BEAUMONT, TEXAS
E. L. Wilson Hardware Company

SALT LAKE CITY, UTAH
F. C. Richmond Machinery Co.

NATIONAL TRANSIT PUMP & MACHINE CO.
OIL CITY, PA.

PHOENIX, ARIZ.
Pratt-Gilbert Co.

LOS ANGELES
Republic Supply Company of California

ST. LOUIS, MO.
Reeves & Skinner Machinery Co.

FIELD PUMPS
TOOLS
for Pipe Line Construction
GAS ENGINES
GAS ENGINE GAS

NEW YORK PHILADELPHIA CLEVELAND PITTSBURGH LOS ANGELES HOUSTON TULSA NEW ORLEANS

The OIL and GAS JOURNAL

PRODUCING REFINING PIPELINE ENGINEERING MARKETING

Published Weekly by
THE PETROLEUM PUBLISHING COMPANY
114-116 West Second Street
TULSA, OKLA.

Established as an International Publication in 1910 by Patrick C. Boyle.

President - - - - - - - - - - - - - P. C. Lauinger
General Manager - - - - - - - - - - John M. Egan
Editor - - - - - - - - - - - - - James McIntyre
Managing Editor - - - - - - - - Andrew M. Rowley
Refinery Editor - - - - - - - - - - C. O. Willson
Technical Editor - - - - - - Charles K. Francis, Ph.D.
Petroleum Engineering Editor - - - - L. G. E. Bignell
Associate Editor - - - - - - - - - W. T. Anderson
Associate Editor - - - - - - - - - W. T. Ziegenhain
Associate Editor - - - - - - - - Thomas F. Smiley
Advertising Manager - - - - - - - - E. Klappenbach
Circulation Manager - - - - - - - Simon H. Rourke

DISTRICT ADVERTISING OFFICES

C. L. CAIN - - - - 101 Park Ave., NEW YORK CITY
C. R. FARMER - - - - - - - - - - - - - - - - - -
- - 6 North Michigan Ave., Room 1416, CHICAGO, ILL.
LOUIS D. WEST, 1105 Leader Bldg., CLEVELAND, OHIO
NEIL WILLIAMS - - - - - - - - - - - - - - - - - -
- - - 1316 Second National Bank Bldg., HOUSTON, TEX.

TERMS OF SUBSCRIPTION
(By Mail, Postage Prepaid)

Single copies	$ .15	One year (in United States)	$6.00
Three months	$2.00	One year (in Canada)	$7.00
Six months	$3.00	One year (foreign countries)	$7.00

ADVERTISING RATES ON APPLICATION
Telephone: 3-6291
Remittances by Checks, Drafts, Express or Postal Money Orders should be made payable to
The Petroleum Publishing Company
Cable address, "Oilgasnal"

MEMBER AUDIT BUREAU OF CIRCULATIONS

OIL CHIEF MARSHAL

When, some months ago, it was suggested in these columns that the oil industry might lead the turn to better times, there were many oil men who could see no possibility of it.

The oil business, they said, was being hit, not only by the general depression, but by its own depression from overproduction, from which it had suffered in the years when every other business was booming.

But they overlooked one all-important factor. Since the depression started practically every other major industry and business has seen its volume of business reduced far below normal. The demand for gasoline, on the contrary, has been well maintained.

Domestic consumption for the first nine months of this year was actually one and one-half per cent more than for the same period of last year. Gasoline exports, of course, decreased, in common with exports of other commodities, but the domestic demand was so well sustained that the total consumption was 97 per cent of that in 1930, which was the largest ever recorded.

With any turn for the better in general conditions the oil industry is therefore able to start off on the upgrade at once without having to recover the ground lost by most other businesses, which they must make up before they can expand again.

The one big industry in that position is surely exceptionally qualified to lead the procession back to prosperity.

Of course, that alone would not be sufficient if the oil industry was still mired in its own overproduction. But it has overcome its own depression.

The convincing proof of that emergence was the announced increase in the price of crude.

After the experience of the past summer, it is a certainty that no such increase would have been announced unless basic conditions justified it.

So long as there was danger of reckless overproduction, any price increase was simply feeding fuel to the fire.

Producers who had co-operated in the effort to curtail overproduction with the hope that they would be able to avoid further collapse of the market had to suffer the penalty which the overproducers brought upon them all alike.

It was not until production had been stabilized in line with demand, and opinion within and without the industry was convinced of the necessity for preventing further overproduction, that prices could be corrected without risk of renewed overproduction.

The producing industry today thoroughly understands that, and those few who might be tempted to endanger the industry through greed can be restrained.

Oklahoma, California and Texas, the three great producing states, have the situation well in hand. Production is being limited to actual needs with provision for reduction of superfluous and costly storage.

Statistically the industry is in balance and the time had come for recognition of that fact in a price structure admittedly far below a fair return to the producer.

The producers have borne the brunt of the oil industry's depression. They were entitled to consideration, not only because of their existing situation, but because of the losses they have suffered up to the present time.

Oil has been so cheap that it has threatened to bankrupt the industry and impoverish the states and communities dependent upon it, increasing the burden of taxation at the same time it diminished the volume of business.

The advance in the price of crude will help producers to their feet, start business upward in every oil state and community and solve the taxation problems threatening the general taxpayer.

The refining branch has found cheap crude a mixed blessing. As always, it has resulted in the competition of cheap gasoline breaking down the refined market. Overproduction, whether of crude oil or of gasoline, invariably has that effect. It cannot be otherwise. No one can expect, however favorably situated, to escape that inevitable consequence of offering more than buyers can consume.

Stabilization of production has recently enabled the refiners to make progress towards stabilization of their output in line with estimated requirements and as a consequence to strengthen their market structure.

The refinery prices which prevailed when the crude market was lowest were as impossible as the crude prices. Neither refiner, producer nor any one else can continue in business unless he receives enough to cover the cost of his operations. There are still some areas where the refined market is out of line, but the crude readjustment in the Mid-Continent should have a corrective effect.

Maintenance of a living return to the producer and refiner may require some adjustment in the retail market, but a consuming public which has uncomplainingly submitted to a repeatedly increased gasoline tax cannot reasonably object to the comparatively trivial increase in price required to help the producer and refiner make ends meet.

The country has suffered so much in the past two years from declining prices and their consequence, unemployment, that it would be glad to see evidence of a return to normal prices and times.

This depression has been an eye-opener in economics. The country is paying dearly for cheapness.

If we expect to get normal return for our own work or goods, we must be willing to see others get a proportionate gain. Who would not rather pay more and get more than pay less and get less?

The Oil and Gas Journal has always maintained that oil measured by any standard is worth all the consumer pays for it. There is no other commodity, irreplaceable as it is, that gives the consumer so much value for his money, power, transportation by land, sea or air, light and heat. Yet during the peak of overproduction in East Texas a barrel of oil was sold for the price of a quart of milk, thousands of oil men were thrown out of work, Oklahoma and Texas were piling up state deficits, transferring new burdens on the taxpayers, and prosperous communities were feeling the pinch of a dual depression world wide and local.

The return of prosperity to the oil industry will be the first step towards the new and better day.

Oil should be the chief marshal in the parade.

EAST — WEST — NORTH — SOUTH

GAS GOES *via*

DRESSERS

Long distance pipe lines shooting out to all points of the compass . . . far-away communities getting natural gas for the first time . . . higher and higher pressures . . . flexible joints that remain *permanently tight* under all conditions of service—DRESSER COUPLINGS insuring uninterrupted service with minimum maintenance.

S. R. DRESSER MANUFACTURING CO.
Bradford Pennsylvania

DRESSER COUPLINGS DOMINATE

Drill Cracking Tubes to Reduce Hazard

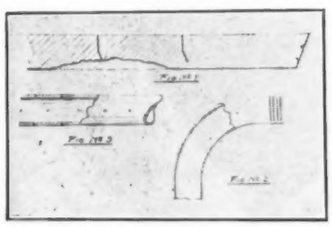
De Florez Develops System to Give Timely Warning to Reveal Cracking Equipment Failures. Safeguards Equipment and Crews. Plan Now in Use

By Luis de Florez

The processing of petroleum oil under pressure and temperature has always been a hazardous operation. Perhaps the obvious danger heretofore has been its own safeguard, for it has led to rigid inspection methods, strict discipline, in addition to extreme care in processing.

From the standpoint of design and material, much progress has been made, but with the advent of corrosive charging stock, high velocities in conduits to inhibit carbon formation, and processing the less favorable stocks, even the best design and skillful choice of materials are not entirely adequate to insure safety and increased reliance must be placed in the added inspection and routine care.

We now know how to make runs of the order of 2,000 hours in the case of cracking units, and improvements in processes permit the use of charging stocks which were formerly not considered favorable for cracking. Modern cracking units are often called upon to make a definite product from residual oils and heterogeneous refinery mixtures which may be highly corrosive. The tendency seems to be, in fact, to make the function of cracking units one of general utility instead of a specialty operation on selected stocks as in former years, when cracking was limited to a comparatively small part of refinery operation. Today the tendency is to turn into gasoline anything that cannot otherwise be sold and the cracking units are called upon to perform this operation.



Drawing illustrates the type of hole and the general method of drilling pipe for safety.

Since these conditions prevail and will, in all probability, continue along this trend, it is evident that methods must be developed to supplement the usual inspection and drilling of vessels and conduits to offset conditions which are constantly becoming more severe.

Reduces Hazards

Such a method, now in successful use in a number of large refineries, has been developed which tends to materially reduce the hazard of failure on pressure stills. The method, which appears to be simple and comparatively inexpensive, has been developed after much thought and effort, and is now widely used by several of the large oil companies who have largely contributed to its development. The general idea is simple, as will be seen, but experience shows that proper technique is necessary and improper use may destroy its usefulness.

The method consists essentially of preparing small spots in conduits or vessels where failure may occur harmlessly but giving indication of wear while there is still sufficient metal to operate with safety until such time as the plant may be shut down.

This is accomplished by drilling the walls of the equipment with small holes at fairly close intervals to a depth determined by the lowest safe bursting limit. When corrosion or erosion occur to thin the wall of the container, leakage will be evidenced at these drilled points giving warning that a safety limit has been reached.

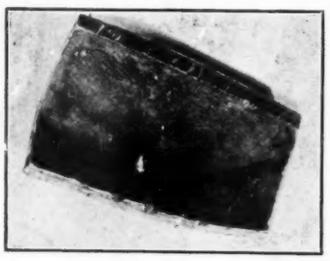
The size and shape of the holes and their position and number are of great importance and have been the subject of a great deal of study and will continue to be, as usage furnishes experience.

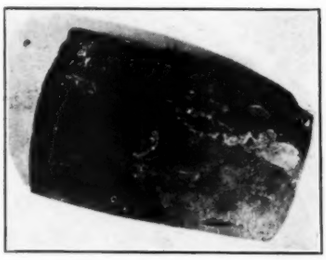
It has been found that the most satisfactory shape for the hole is cylindrical with a sharp conical bottom, the size of the cylinder being one-eighth inch to one-quarter inch in diameter, and the angle of the cone 45 to 60 degrees with the horizontal. The conical bottom of this hole permits the leakage to take place when the metal wears away at the minimum rate at first, gradually increasing to the full bore of the hole if, by any chance, it is not observed with reasonable promptness. The increasing diameter of the hole insures the dislodging of any obstruction which may form which might interfere with the leakage. The holes are drilled through the metal until the point of the cone reaches the predetermined safety line, usually one-half of the thickness of the original wall, the depth being regulated by a stop on a drill which has been shaped to the desired cone bottom.

Spacing of Holes

The spacing of the holes around the conduit has been a matter of discussion and it has been generally conceded that where there is a possibility of spotty corrosion the only safe course lies in drilling the tube at regular intervals around its periphery and not attempting to drill only in the spot where corrosion is most likely. Several instances have indicated that mistakes might be made in assuming the point of maximum corrosion and the wearing of the walls progresses to an unsafe degree without giving proper warning. For instance, in one case the corrosion spot occurred at the beginning of the bend and not in the central portion. It has also been found that in straight sections of pipe wear is observed just beyond the flanges, although the point of maximum wear may sometimes occur 30 or 40 inches from this point. Just why corrosion spots occur is not entirely clear although it seems that they are generally caused by turbulence which wipes the surface clean and permits corrosion to become more effective in this locality. Uneven composition of metal or surface, which is also undoubtedly a factor, cannot, as a rule, be detected in pipe inspection, and makes it necessary to drill according to pattern rather than in accordance with logic.

In straight line pipe it is considered desirable to drill at regular intervals all around the pipe, usually at two points 180 degrees apart, the next two holes being drilled with their axes at right angles to the preceding pair. The spacing between each pair of holes is made from 6 to 14 inches, which appears to cover the area of the pipe sufficiently for safety. There is no objection to putting the holes even closer, but the above spacing seems to be adequate and not unreasonable. It is obviously a tedious matter to drill pipe in the fields with accurate holes, particularly when, as in many instances, scaffolding is required and the unit must be shut down for the operation. Where it is necessary, of course, this may be done and the spacing modified to suit conditions.





Photographs show a section of pipe which has suffered spotty corrosion and in which the walls were sufficiently worn to expose the safety drilling and give indication of possible failure.

Predrilled Piping

In order to obviate this difficulty and expense, provisions have been made to supply predrilled pipe and tubing in regular lengths which can be substituted for regular pipe on all important lines. The use of this pipe on new work will provide the necessary safety at very little additional cost.

In the case of bends, it is felt that predrilled pipe may be used in spite of the fact that some distortion of the holes will occur. The necessity for a large number of drillings in any system of piping is essential to safety and as long as the distortion of the holes does not preclude their proper functioning it is felt that the reduction in labor insures the requisite number of drillings and minimizes the tendency to wide spacing to save cost, which may not completely safeguard the system.

The use of drillings has also been extended to still tubing within the furnace. It is particularly valuable in indicating the thinning of tubes toward the ends where this usually occurs to the greatest extent and thus gives an indication of the strength of the rollings in the header boxes. Many instances have occurred where tubes have become so thin at the ends that the rolled portion in making the joint with the return bend has collapsed, blowing off the header, which always results in a serious fire. Drilling the tubes a foot or two inside the headers would give an indication long before the danger point would be reached.

Tubes, however, do not always wear at the ends, and, again, there are sufficient instances of thinning of the walls in the center section to make it worth while drilling the whole tube although the spacings may be made larger than in transfer lines or vapor lines.

It seems to be the opinion of a number of operators, and I believe likewise, that if holes are provided in the tube, where a swelling occurs, a pin hole failure will be evidenced at the drilling before the pipe swells sufficiently to split which would be obviously advantageous.

The question of the effect of the drilling described on the strength of tubing in conduits has, of course, arisen and it seems evident from study that on piping of any size which might be used for refinery equipment, the holes do not materially affect the strength due to any tendency of localizing stresses. The actual amount of metal removed from the wall of the pipe is only a fraction of a per cent of the total and from an arithmetical point of view is negligible. For instance, even if holes should be placed as close as 4 inches apart on a 4-inch pipe, the area of four one-eighth inch holes, which is .049 square inches in comparison with 54 square inches, is obviously negligible even though no account is taken of the metal between the bottom of the hole and the inside of the pipe which, of course, has not been removed.

Insulated Lines

A factor which has to be taken into account in actual operation is the method of insuring that the leakage between holes can be observed with insulated lines. This can be accomplished in a number of different ways. Where comparatively few holes are used, a small piece of tubing may be tack welded on the pipe and extended through the insulation. The insulation may be put on in the usual way, breaking it up into sections of 6 to 8 feet in length, separating these by tin dams. In the latter case, if a leak occurs, the insulation will become impregnated with oil and show up, either from smoke or dripping, in sufficient time to permit the equipment to be shut down. Other methods have also been devised, the problem being simplified since ample time is available to notice

(Continued on Page 102)

View showing the method of drilling the transfer line from a large vertical heater to the first tower.

ALWAYS DEPENDABLE

PENBERTHY injectors, liquid level gages, and lubricating devices are universally used in field, refinery and natural gasoline plant because they have always been dependable under the most severe service conditions.

Penberthy Products are carried in stock by supply houses everywhere.

PENBERTHY INJECTOR COMPANY
DETROIT
ESTABLISHED IN 1886
CANADIAN PLANT, WINDSOR, ONT.

Authorizes Ratable Taking of Gas

Texas Commission Issues New Order Governing All Texas Fields, Also Drilling Rule for Panhandle

By Special Correspondent

AUSTIN, Tex., Nov. 3.—An order regulating the common purchase and ratable taking of natural gas in all Texas fields had been signed Tuesday by all members of the Railroad Commission and was to be certified to all producers and operators by Wednesday.

The order provided natural gas was to be purchased without discrimination and ratably by all common purchasers from each pool or field.

All common purchasers are required to provide meters, subject to check by producers. Producers must have Railroad Commission certificates before connecting.

Purchasers shall be required to purchase marketable gas only, it being defined as: "Natural gas in its natural state, free from liquids, corrosive substances or other foreign matter, containing sufficient heat units to satisfy purchasers' market requirements for resale, and free from excessive air content; residue gas which has gone through a process of gasoline extraction and is free from liquids, corrosive substances and other foreign matter and from excessive air content; and casinghead gas containing a gasoline content sufficient to warrant the economical extraction therefrom, free from liquids, corrosive substances and other foreign matter and from excessive air content."

Provided there shall be no discrimination and in case a purchaser takes gas from its own properties or purchases from others gas not marketable as defined, shall be purchased ratably from gas tendered from the same pool and of same grade and quality.

Purchaser of one of the three types of gas defined shall not be required to purchase other types. Purchaser shall not be required to use artificial means to take gas nor to install treating plants. Gasoline made marketable by the producer shall be taken ratably. Common purchaser may require execution by producer of a purchase contract before making connection. Connection shall last at least a year unless otherwise agreed. The order followed a hearing here September 28.

The commission also promulgated an order dealing with natural gas in the West Panhandle Field of Texas under its Amarillo hearing of October 5. It limited drilling of gas wells to each 16[illegible] acres, with smaller tracts to be regarded as units, ownership of this date to be the basis, except no well on fraction less than 40 acres of a large tract divided into units. Gas shall be taken ratably on the 160-acre basis.

Common purchasers must post each month reports on wells, withdrawals, volume and rock pressure. Common purchaser shall not be required to connect wells over 2 miles distant from trunk lines but producer may pipe to within 2 miles. Purchaser shall not be required to extend lines or connect to well of natural flow less than 5,000,000 feet nor any well producing through bradenhead, but operators may construct line to gathering line and connection then shall be made.

WORLD PETROLEUM CONFERENCE PROPOSED BY RUMANIAN OIL MEN

NEW YORK, Nov. 3.—Rumanian producers will join with American, Venezuelan and other world producers (excluding Russia), in an international petroleum conference to be held in the near future to determine plans for stabilizing the position of the world industry according to reports from London.

Rumania, which last year displaced Mexico as the fifth largest producer of petroleum, is now producing at double its prewar rate but during the past year has been marketing the greater part of its output at ruinous prices.

Royal Dutch-Shell and Standard Oil Co. of New Jersey have important producing and refining interests in Rumania and during the latter part of 1930 were instrumental in bringing about a curtailment program in that country. Pressure by the independents, however, upset the proration plan after it had been in effect but little more than a month and since that time production has been unrestricted with both crude and products selling at record low prices.

Cancellation of the Spanish Petroleum Monopoly's contract for Rumanian gasoline and other refined products following the recent revolution in Spain has intensified the marketing problems of the Rumanian industry. A leading Rumanian company recently shipped a cargo of gasoline into Detroit and now has another cargo en route to the United States.

While nothing definite regarding the proposed international conference is forthcoming yet, it is believed the meeting will be held in London, Paris or New York.

High Spots in Field News

ROCKY MOUNTAIN AREA

Good saturation found in Fort Morgan test, Colorado. Prairie's Greasewood well running high. Three new locations.

NORTH LOUISIANA-ARKANSAS-MISSISSIPPI

Increase in completions in the three states with greater number of field operations reported under way in various areas.

WEST AND NORTH TEXAS

Ward County continues activity. Deeper drilling in Chalk Hill area, Archer County. Five locations staked in Panhandle.

CALIFORNIA

Crude oil situation better. Development of Sespe zone at Elwood unlikely for six months. Kettleman output down.

OKLAHOMA

Corporation commission holds production to same levels. New operations starting. Deepest test shut down waiting for cement.

SOUTHWEST TEXAS

Well in Guadalupe County rated at 5,460 bbls. Humble producer in extension pool southwest of Darst Creek second biggest in Southwest Texas in year.

KANSAS

Wildcat in southeastern Barton County swabs 540 bbls. in 20 hours and will be drilled deeper. New potentials to be taken in Schurr Pool, Rice county.

GULF COAST

Manvel discovery well deepened for third time and again produces. Good wells at Barbers Hill and East Hackberry. Second completion at Bayou Choctaw Dome.

EAST TEXAS

With 172 wells completed during week, new record, total wells now number 2,764. New locations during week totaled 122. Wildcatting spreading to other areas.

Late Fields

EAST TEXAS

FORT WORTH, Tex., Nov. 3.—Martin & Co.'s No. 1 Elder, Eastern Kilgore, in the Mary Van Winkler Survey, east offset to a producer, appears only as small pumping well at total depth 3,566 feet; top sand 3,545 feet. It helps to define the eastern limits of the Kilgore Pool. McCamey's abandoned test, half mile east, also had some oil but not enough to produce. Arkansas Fuel Oil Co.'s No. 2 Castleberry in Sanchez Survey, Lathrop Pool, Gregg County, east offset to Columbia's test which looks like dry hole, is also appearing as dry, pulling in the producing limits of this field on the east. Tidal Oil Co. has rigged up on the east offset but will not drill until Arkansas well is completed.

OKLAHOMA

Two wells were completed in the Oklahoma City Field Monday, but only one made a production test. Phillips Petroleum Co.'s No. 1 Dehn, NW cor. SE NE, Section 3-11-3w, flowed 6,580 bbls. in 2 hours and 50 minutes. The gas was estimated at 51,000,000 feet a day. The oil and gas were found in the Wilcox sand at 6,323-6,447 feet. The other well was Plains Petroleum Co. and Capitol Producing & Refining Co.'s No. 1 Baum, SE cor. NW, Section 15-11-3w, on the west side of the field. It was bailed down and the fluid rose to the top of the hole. It was immediately shut in without further cleaning out. Additional tankage is being erected and a pipe line connection is being built to the well. The Wilcox sand was found from 6,356-6,500 feet.

The total production from the Oklahoma City Field during the month of October was 3,628,410 bbls., which was a daily average of 117,045 bbls. The field was shut down under martial law the first nine days in the month and the daily production during that time was held at a low figure.

Lieut. Col. Cicero I. Murray, in charge of the military enforcement of proration in the Oklahoma flush fields, announced that he was preparing an order putting the new proration rules and regulations of the State Corporation Commission into effect at once. The military order will incorporate all the provisions of the commission's order, without change and will direct their enforcement under military authority. New potential production tests were under way in the Greater Seminole area, which under the new orders, if the district fails to produce 155,000 bbls. a day, on a 50 per cent allowable, the difference will be allotted to the Oklahoma City Field, where the daily allowable is now 180,000 bbls. a day.

The deepest hole in the Mid-Continent area has cemented the casing and is shut down. Mid-Kansas Oil & Gas Co. and Ramsey Petroleum Co.'s No. 6 Preston-Culp, NW cor. NE Section 6-5-9w, in the Cement Pool, Caddo County, has landed 9,777 feet of special 6-inch casing. The total depth of the test is 10,079½ feet. The crew used 1,875 sacks of cement and 20 tons of ice while cementing the casing. Drilling out the cement is expected to start next week.

Two tests on seismograph locations are expected to reach interesting depths in a few days. The Mid-Continent Petroleum Corp.'s No. 1 Farmer, SE cor. SW NW Section 2-6-4, Pottawatomie County, was drilling in a rotary hole at 2,400 feet on the last report. It is located midway between the Asher and Pearson Pools. The other test is Hilton Phillips and others' No. 1 Phillips, SW cor. NW Section 2-14-3, Lincoln County, located north of the West Chandler Pool, and it was drilling around 3,200 feet in a rotary hole.

New locations announced on Tuesday, November 3, include the Mid-Continent Petroleum Corp.'s No. 1 Bruner, NE cor.

(Continued on Page 103)

REPORT DELAYED

Election day, Tuesday, November 3, caused a delay in compiling the weekly refinery statistics by the American Petroleum Institute. This report, covering crude runs to stills, gasoline stocks and gas and fuel oil stocks, will be published, with the graph, as usual next week.

MAGNETIC STORM

The U. S. Coast and Geodetic Survey, Tucson, Ariz., observatory report that there was a moderate magnetic storm beginning at 2 a.m. (C. S. T.), October 29, and ending 8 a.m. (C. S. T.), October 31. Their telegrams are as follows:

"Storm began twenty ninth. Eight. Moderate."

"Storm ended thirty first. Fourteen."

New Completion Record in East Texas

Now 2,764 Wells, of Which 172 Were Brought in During the Week, With 122 New Locations. Gregg County Present Center of Activity

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

DALLAS, Tex., Nov. 2.—On the last day of producing wells in East Texas at the old 165-bbl. per well rate the district produced 437,019 bbls. from 2,666 wells, and the first day's production under the new order of 150 bbls. per well was 400,802 bbls. On November 1 production had increased to 419,309 bbls. from 2,737 wells. The number of wells reported completed as of 7 a.m. November 2 was 2,764.

There were 172 wells completed in the district during the week, a record for the area, whose peak location report reached 190 two weeks ago. Locations dropped again this week, but only slightly, from 128 last week to 122. There were 70 reported for Gregg County, 12 for the Kilgore area, 21 for the Joiner area, 8 for Smith County and 11 for Upshur County. There were 93 completions registered in Gregg County this week, giving an idea of where the greatest amount of activity is centered in the district.

Drain From Storage

Daily average production for the district for the week ending October 29 was 417,728 bbls. while distribution, by trunk lines, tank cars and runs to local refineries average 441,050 bbls. per day, a difference of almost 24,000 bbls. At the present rate of taking from steel storage in the district, all oil in tanks will soon be drained, leaving only the day's production to satisfy the purchasing companies with oil, consequently their daily runs will then be kept to within the daily average production of the district. Pipe line shipments increased 15,660 bbls. per day during the last period, while runs to refineries fell off 1,225 bbls. per day. In view of present conditions this tends to prove that the small refineries are having a rather difficult time in the district, and may expect still further difficulty in securing enough oil for their needs. The new posting will add to the difficulties of the small refiners in the district.

Pipe line charges for carrying oil from East Texas to the Gulf Coast are now posted as 25 cents by the Shell Pipe Line Co. and Humble Pipe Line Co. The Texas Pipe Line Co., Sun-Yount Lee Pipe Line Co. and Magnolia Pipe Line Co. have a charge of 20 cents to the coast plus 2½ cents for loading on boat, which brings the total charges to 22½ cents loaded on boat.

Drilling costs in the East Texas district have fluctuated considerably, and have been as low as in any field heretofore discovered, due to the fact that there have been so many contractors in the field, times have been tough, and there has been much bargaining on drilling prices before contracts were let. Lack of money has also been responsible for contractors making many different kinds of deals with small lease owners, these owners having but little capital to pay for drilling, and depending on their "horse-trading" qualities to get a well put down on their leases.

The Magnolia Petroleum Co. became owner of a 100-acre lease with two completed wells in the G. W. Hooper Survey, Gregg County, from Tom Cranfill for $200,000 cash and $150,000 out of one-fourth of the first oil produced. Several other smaller purchases were reported in the district during the week, the majority taking place between independent operators.

Interesting Upshur Test

Cranfill & Reynolds' No. 1 Rash in the Eubanks Survey, Upshur County, an interesting test north of the Lathrop Pool, which will either extend production north or define the field more definitely, topped the Pecan Gap chalk approximately 150 feet higher than the nearest test, the De-Armand dry hole 3 miles to the southwest. The Pecan Gap was topped at 2,418 feet with an elevation of 329 feet. However, the top of the Pecan is not considered the best marker in the field, and only conjectures can be made until the base is logged and the Austin encountered. The logging of the Austin at an encouraging depth may also mean but little, Woodbine sand possibly proving dry as was the case in Holloway and Sowden's No. 1 Penn in the Manning Survey, a little over 5 miles to the southwest.

Golding and Murchison will drill a wildcat in the Thomas Palmer Survey near the town of Athens in Henderson. The location will be staked on a 2,300-acre block located on a geophysical high. The proposed test has opened up a lease play in this area, mostly interesting independent operators.

A Mr. Hoffpam of Van has assembled a 4,500-acre block centering around the D. Falton Survey, south of the town of Kaufman in Kaufman County, and will start a test within 45 days after completion of the block.

Wildcatting Spreads

Wildcatting is still held to a minimum in the entire district, but the discovery of Van and the great East Texas Field has given rise to the feeling that other large pools may be found in the district, therefore it will be the scene of many more tests throughout the various counties as was West Texas after the Big Lake, Mitchell County and Crane-Upton Fields were discovered. East Texas will no doubt receive the wildcatters' interest for the next two years, unless a new pool is found in Southwest or West Texas to attract attention to those two districts.

Another dry hole appears on the eastern edge of production in the Lathrop Pool, Gregg County. Columbia Oil & Gas Co.'s No. 1 Castleberry, approximately 1,000 feet due west of Tidal Oil Co.'s No. 4 Castleberry in the Sanchez Survey, has drilled to a total depth of 3,676 feet without showing as a producer. It is an east offset to producers, but may prove the eastern limit to production in this area.

A. B. Capers, former umpire in charge of East Texas, succeeding Ray Richmond, has been released by the Railroad Commission and was immediately commissioned a captain in the National Guard, and is assisting Gen. Jacob F. Wolters and the National Guard in regulating the field.

The commission has also released many men recently placed in the district to help regulate production, and collect information. It has abandoned all authority in regard to regulating the field, National Guardsmen taking over practically all of this work, and being called when a company or operator is ready to bring in a well.

Production Rules Amended

The Railroad Commission has issued a supplemental order further amending the special order fixing rules and regulations for the prevention of physical waste of crude petroleum oil and natural gas in the East Texas Field.

All oil strings, or flow strings, of casing shall be tested for leaks in the following manner: After the string is cemented and before the cement plug is drilled the fluid in the casing shall be bailed or swabbed until the top of the fluid is 2,500 feet or more below the surface. The well shall be allowed to stand in this condition for 48 hours at the end of which time a measurement shall be taken to the top of the fluid. If it is found that the fluid has not raised more than two feet the casing shall be adjudged in good condition. If the fluid level has raised more than two feet the well will be allowed to stand 24 more hours and again measured for fluid level. If no further rise in level is noted the casing will be adjudged in good condition and operations allowed to continue. If the second measurement shows a rise in fluid level, the casing will be condemned and the operator ordered to correct the condition. This may be done either with a new string of casing or where possible by cementing the old string back to the surface. After the corrective operations, the well will again be tested in the above manner.

All surface, or christmas tree fitting, shall be tested to a pressure not less than 800 pounds.

All wells shall be equipped with a bradenhead or casinghead with working pressure of not less than 800 pounds.

All wells that encounter the top of the pay horizon at minus 3,300 feet or lower shall be allowed a maximum sand penetration of four feet.

EAST CENTRAL TEXAS WILDCATS

Week Ending November 2

ANDERSON COUNTY

Company, well, farm name, section and block—	Remarks:
Riango Oil Co.'s No. 1 J. Lynn, 1,400 ft. from NE line and 7,425 ft. from E line of survey, R. Brown Sur.	S.D. 2,755 ft.
H. B. McConnell et al's No. 1 N. B. Watson, 500 ft. from W line and 4,850 ft. from N of S line of survey in S half of 129-ac. tract, M. Main Sur.	Rig up and S.D.

BOWIE COUNTY

Tom Bell's No. 1 Merritt, 1,225 ft. from N and 875 ft. from E line of survey, T. S. McKinney Sur.	Shut down 3,415 ft.
Logan and Elliott's No. 1 J. W. Smith, 9,600 ft. S and 2,500 ft. W of NE cor. of survey, Charles Lewis Sur.	S.D. 4,503 ft.
Tarkington-Jones et al's No. 1 W. W. Whybark, 200 ft. from S and W of SW cor. of J. A. Dyer Sur.	Drlg. 1,850 ft.
Lee Timberlake et al's No. 2 Julius N. Tidwell, 655 ft. from E and 2,510 ft. from S of survey in L. M. Rice Sur.	S.W. on drill stem test; S.D. 3,012 ft.

CHEROKEE COUNTY

Bridges and Candler's No. 1 Berryman, center of Berryman tract, H. Kimble Sur.	S.D. 1,000 ft.
Denman et al's No. 1 Mrs. Renfroe, 330 ft. N of S line and 330 ft. E of W line of farm, Uriah Moore Sur.	Derrick.
Walton Oil Co.'s No. 1 Singleton, 250 varas W and 150 varas N of NE cor. of Morton Lacy Sur. in the T. Walters Sur.	S.D. 2,960 ft.
Wilson & Stubbs' No. 1 L. Robart, 450 ft. from S and 150 ft. from W of lease, J. B. Wolfin Sur.	Drlg. 1,465 ft.

DALLAS COUNTY

Paris' No. 2 Wilkinson, 2,787 ft. from NW and 3,241 ft. from SW of John P. Anderson Sur.	T.D. 1,230 ft; S.D.
Joe Wilson's No. 1 fee, 600 ft. from N line and 600 ft. from W line of 1,500-ac. tract, John Scroggy Sur.	Derrick.

DELTA COUNTY

Worthington et al's No. 1 Pejernett, 776 ft. from S and 150 ft. from W in E. Chicks Sur., 1½ miles W of Horton	S.D. 3,315 ft.

ELLIS COUNTY

Clark Brooks' No. 1 C. W. Golliday, 300 ft. from S line and 300 ft. from E line of tract and survey, John Bones Sur.	Set 8-in. csg. 1,156 ft.
Community Oil Co.'s No. 1 Nash	Derrick.
E. M. Roger's No. 1 John Lee Winn, 1,650 ft. from E and 510 ft. from S of Orland, Orlo Wheeler Sur.	S.D. 1,435 ft.
Worthen Pet. Co.'s No. 1 Cerf, 2½ miles NE of Ennis	Shut down 2,225 ft.

(Continued on Page 86)

DAILY AVERAGE OIL MOVEMENTS FROM EAST TEXAS
Week Ending October 27

Shipments by Main Trunk Lines

Company, size, to—	Amount
Atlantic Pipe Line, 10-in., Atreco	19,812
Arkansas Pipe Line, 8-in., Shreveport	17,780
Atlas Pipe Line, 8-in., Shreveport	15,010
Gulf Production, 2-8-in., Port Arthur	32,435
Humble P. L., 2-10-in., Shreveport	49,372
Humble P. L., 2-8-in., Todd	49,800
Liberty Pipe Line, 8-in., Rusk	3,503
Magnolia Pipe line, 10-in., Center	14,349
Magnolia Pipe Line, 12-in., Corsicana	47,507
Shell Pipe Line, 10-in., Houston	19,200
Sinclair-Texas P. L., 12-in., Teague	36,111
Sun Pipe Line, 10-in., Sun City	25,559
Texas Pipe Line, 10-in., Douglass	42,050
Texas-Empire P. L., 12-in., P. Arthur	33,986
Tidal Refining, 6-in., Carthage	6,170
Total	412,644

Shipments to Refineries

Arrow Refining Co., Overton	501
Beacon Refining Co., Henderson	720
Boone Refining Co., Arp	325
Central Refining Co., Friar Switch	S.D.
Constantin Refining Co., Overton	S.D.
East Texas Ref. Co., Longview	7,526
East Texas Ref. Co., Friars Switch	5,820
Gladewater Refining Co., Gladewater	249
Gladetex Refining Co., Gladewater	165
Kilgore Refining Co., Kilgore	750
W. B. Mackey, Gladewater	330
Overton Refining Co., Overton	719
Rusk Refining Co., Overton	290
Sinclair Oil & Gas Co., Longview	1,360
Slack Refining Co., Camp Switch	S.D.
Southern Oil & Ref. Co., Reed Switch	500
Taylor Refining Co., Tyler	4,845
Total	24,100

Shipments by Tank Car

Company, from—	Amount
Houston Oil Co., Kilgore	1,875
East Texas Refining Co., Longview	344
Cherokee Chief, Gladewater	490
F. & M. Trasp. Co., Camp Switch	340
Pilot Oil Co., Willow Springs	638
Shell Pet. Corp., Willow Springs	252
Tyler Pipe Line Co., Tyler	375
Total	4,314
Total daily average distribution	441,058
Total daily average production	417,730
Daily average from storage	23,328

COMPLETIONS IN EAST TEXAS

Anderson County

Rianjo Oil Co.'s No. 1 Lynn junked and abandoned, total depth 2,875 feet.

Gregg County

R. A. Ambrose and others' No. 2 George Jones, top sand 3,627 feet, initial production 165 bbls. per hour through tubing, total depth 3,672 feet. Arkansas Fuel Oil Co.'s No. 2 Orms, top sand 3,545 feet, initial production 112 bbls. in 30 minutes through open tubing, total depth 3,571 feet.

Atlantic Oil & Production Co.'s No. 2 E. Burnside, top sand 3,518 feet, initial production 216 bbls. per hour through tubing, total depth 3,545 feet. Same company's No. 2 McKinley, top sand 3,612 feet, initial production 125 bbls. per hour through various chokes, total depth

3,642 feet. Same company's No. 3 McKinley, top sand 3,624 feet, initial production 130 bbls. per hour through various chokes, total depth 3,654 feet. Same company's No. 1-T Tuttle, top sand 3,546 feet, initial production 186 bbls. per hour through 1½-inch tubing choke, total depth 3,600 feet. Same company's No. 2-B Tuttle, top sand 3,556 feet, initial production 188 bbls. per hour through 1½-inch tubing, total depth 3,600 feet.

Bristow and Rowan's No. 1 W. A. Moore, top sand 3,492 feet, initial production 30 bbls. in 15 minutes through open tubing, total depth 3,528 feet. Barnsdall Oil Co.'s No. 3 G. E. Adams, top sand 3,563 feet, initial production 168 bbls. per hour through 1-inch tubing choke, total depth 3,637 feet.

Cal Pet. Corp.'s No. 1 G. Jones, top sand 3,572 feet, initial production 97 bbls. per hour through three-fourths inch tubing choke, total depth 3,650 feet. Same corporation's No. 2 George Jones, top sand 3,597 feet, initial production 107 bbls. per hour through three-fourths inch tubing choke, total depth 3,630 feet. Clark and Cowden's No. 1 Wilhite, top sand 3,606 feet, initial production 140 bbls. per hour through various chokes, total depth 3,662 feet. Cox and Hammon's No. 2 L. A. Rodden, top sand 3,559 feet, initial production 170 bbls. per hour through open tubing, total depth 3,575 feet.

Devonian Oil Co.'s No. 1 L. C. Ingram, top sand 3,517 feet, initial production 200 bbls. per hour through open tubing, total depth 3,558 feet. East Texas Refining Co.'s No. 3 D. Caldwell, top sand 3,504 feet, initial production 105 bbls. per hour through open tubing, total depth 3,514 feet. Empire Gas & Fuel Oil Co.'s No. 1 J. W. Akin, top sand 3,583 feet, initial production 124 bbls. per hour through three-fourths inch tubing choke, total depth 3,652 feet. F. H. E. Oil Co.'s No. 1 Massey Christian, top sand 3,624 feet, initial production estimated 135 bbls. per hour through various chokes, total depth 3,654 feet. Harry Hamburty's No. 1 T. L. Brey, top sand 3,639 feet, initial production 100 bbls. per hour through various chokes, total depth 3,665 feet. J. C. Hawkins' No. 1 Shilo School, top sand 3,650 feet, initial production 150 bbls. per hour through various chokes, total depth 3,675 feet.

Humble Oil & Refining Co.'s No. 3 L. A. Hughes, top sand 3,598 feet, initial production 42 bbls. per hour through three-fourths inch tubing choke, total depth 3,634 feet. Same company's No. 4 W. R. Hughes, top sand 3,640 feet, initial production 90 bbls. per hour through three-fourths inch tubing choke, total depth 3,672 feet. Same company's No. 4 Killingsworth, top sand 3,603 feet, initial production 112 bbls. per hour through three-fourths inch tubing choke, total depth 3,643 feet. Same company's No. 2 J. A. Wells, top sand 3,647 feet, initial production 95 bbls. per hour through three-fourths inch tubing choke, total depth 3,676 feet. Same company's No. 1 G. W. Willingham, top sand 3,686 feet, initial production 110 bbls. per hour through three-fourths inch tubing choke, total depth 3,699 feet.

Lloyd Oil Corp.'s No. 1 B. B. Fenton, top sand 3,636 feet, initial production 120 bbls. per hour through various chokes, total depth 3,670 feet. Same corporation's No. 1 J. J. Fuller, top sand 3,676 feet, initial production 65 bbls. per hour through 1-inch tubing choke, total depth 3,700 feet.

Magnolia Petroleum Co.'s No. 4 Everett, top sand 3,688 feet, initial production 122 bbls. per hour through 1-inch tubing choke, total depth 3,696 feet. Mcmillan Petroleum Co.'s No. 3 J. R. Fenton, top sand 3,582 feet, initial production 200 bbls. per hour through 1-inch tubing choke, total depth 3,600 feet.

Peterson and Merritt's No. 1 School Lot, top sand 3,618 feet, initial production 75 bbls. per hour through various chokes, total depth 3,626 feet. Satellite Oil Co.'s No. 1 Colburn, top sand 3,521 feet, initial production 225 bbls. per hour through various chokes, total depth 3,553 feet. Pilot Oil Co.'s No. 1 T. B. Harris, top sand 3,499 feet, initial production 120 bbls. per hour through 1-inch tubing choke, total depth 3,519 feet. Prairie Oil & Gas Co.'s No. 5 Isley, top sand 3,492 feet, initial production 130 bbls. per hour through three-fourths inch tubing choke, total depth 3,492 feet. Ike Rudman's No. 1 M. Fenn, top sand 3,625 feet, initial production 100 bbls. per hour through one-half inch tubing choke, total depth 3,671 feet.

T. S. Schroeder's No. 1 J. C. Bumpass, top sand 3,533 feet, initial production 150 bbls. per hour through various chokes, total depth 3,602 feet. Selby Oil & Gas Co.'s No. 3 H. R. Snavely, top sand 3,593 feet, initial production 165 bbls. in 7¾ hours through one-third inch tubing choke, total depth 3,605 feet. Same company's No. 2 J. P. Snavely, top sand 3,550 feet, initial production 165 bbls. in 3½ hours through one-third inch tubing choke, total depth 3,660 feet. M. C. Sells' No. 1 Robert Fisher, top sand 3,595 feet, initial production 105 bbls. in one-half hour through open tubing, total depth 3,616 feet.

Shell Petroleum Corp.'s No. 1 Brawley, top sand 3,685 feet, initial production 153 bbls. per hour through open tubing, total depth 3,699 feet. Same corporation's No. 1 E. Burnside, top sand 3,496 feet, initial production 102 bbls. in one-half hour through open tubing, total depth 3,554 feet. Same corporation's No. 1 G. C. Slayton, top sand 3,578 feet, initial production 140 bbls. per hour through various chokes, total depth 3,648 feet. Same corporation's No. 2 J. H. Slayton, top sand 3,564 feet, initial production 110 bbls. per hour through three-fourths inch tubing choke, total depth 3,490 feet. Sinclair Oil & Gas Co.'s No. 5 J. W. Aiken, top sand 3,563 feet, initial production 165 bbls. per hour, total depth 3,600 feet. Same company's No. 9 Moncrief, top sand 3,537 feet, initial production 165 bbls. in 45 minutes through open tubing, total depth 3,564 feet.

Same company's No. 10 Moncrief, top sand 3,537 feet, initial production 165 bbls. in 50 minutes through open tubing, total depth 3,552 feet. Same company's No. 11 Moncrief, top sand 3,593 feet, initial production 165 bbls in 60 minutes through open tubing, total depth 3,569 feet. Same company's No. 4 John Williams, top sand 3,494 feet, initial production 165 bbls per hour through tubing, total depth 3,524 feet.

Stanolind Oil and Gas Co.'s No. 2 Cox and Hammon, top sand 3,487 feet, initial production 99 bbls per hour through tubing, total depth 3,554 feet. Same company's Simms Oil Co.'s No. 1 LeMaire, top sand 3,544 feet, initial production, 82 bbls. in one-half hour through open tubing, total depth 3,588 feet. Sun Oil Co.'s No. 5 Haynes, top sand 3,586 feet, initial production 160 bbls. per hour through tubing, total depth 3,616 feet. Same company's No. 3 McKinley, top sand 3,631 feet, initial production 165 bbls. per hour through tubing, total depth 3,661 feet.

The Texas Co.'s No. 4 Clark, top sand 3,560 feet, initial production 110 bbls. per hour through various chokes, total depth 3,621 feet. Tidal Oil Co.'s No. 3 Nettleton, top sand 3,486 feet, initial production 84 bbls. in 10 minutes through open tubing, total depth 3,500 feet. Same company's No. 2 Sheppard, top sand 3,670 feet, initial production 100 bbls. per hour through various chokes, total depth 3,681 feet. Vacuum Oil Co.'s No. 5 R. B. White, top sand 3,510 feet, initial production 238 bbls. per hour through tubing, total depth 3,575 feet. Whittington and others' No. 2-A Boyce, location aban doned.

J. O. Whittington's No. 1 John Bumpass, top sand 3,544 feet, initial production 165 bbls. per hour through eleven-sixteenths-inch tubing choke, total depth 3,554 feet. J. O. Whittington's No. 2 Christian, top sand 3,600 feet, initial production 165 bbls. in 1½ hours through eleven-sixteenths-inch tubing choke, total depth 3,607 feet. Yount Lee Oil Co.'s No. 2 Calvin, top sand 3,55[illegible] feet, initial production, 89 bbls. per hour through eleven-sixteenths-inch tubing choke, total depth, 3,572 feet. Same company's No. 1-B McKinley, top sand 3,582 feet, initial production 73 bbls. per hour through eleven-sixteenths-inch tubing choke, total depth 3,602 feet. Same company's No. A-2 Mund Smith, top sand 3,553 feet, initial production 92 bbls. per hour through three-quarters-inch tubing choke, total depth 3,574 feet. Same company's No. 2-B Snoddy, top sand 3,58[illegible] feet, initial production 89 bbls. per hour through eleven-sixteenths-inch tubing choke, total depth 3,601 feet.

Atlantic Oil and Production Co.'s No. 1-A S. G. Andrews, top sand 3,625 feet, initial production 190 bbls. per hour through tubing, total depth 3,642 feet. Barnsdall Oil Co.'s No. 5-D Smith, top sand 3,575 feet, initial production 12[illegible] bbls. per hour through seven-eighths-inch tubing choke, total depth 3,593 feet. Deep Rock Oil Co.'s No. 1 Jeffry, top sand 3,745 feet, initial production 20 bbls in 10 minutes through open tubing, total depth 3,745 feet. Doss & Jones No. 1 Hagler, top sand 3,572 feet, initial production 165 bbls. in one hour and 40 minutes through three-quarters-inch tubing choke, total depth 3,582 feet. Ethridge's No. 1 Weiss, top sand 3,628 feet, initial production 200 bbls. per hour through open tubing, total depth 3,648 feet. M. T. Flannigan and Tidal Oil Co.'s No. 1 Walker, top sand 3,568 feet, initial production 10 bbls. per hour through three-quarter-inch tubing choke, total depth 3,604 feet.

Gulf Production Co.'s No. 1 Calvin Young, top sand 3,536 feet, initial production 124 bbls. per hour through three-quarters-inch tubing choke, total depth 3,551 feet. Same company's No. 4 Hilburn, top sand 3,559 feet, initial production 100 bbls. per hour through three-quarters-inch tubing choke, total depth 3,574 feet. Jarrett's No. 1 Paul Jones, top sand 3,647 feet, initial production 80 bbls. per hour through three-quarters-inch tubing choke, total depth 3,652 feet. Gold Star Oil Co.'s No. 1 J. A. Butts, top sand 3,638 feet, initial production 150 bbls. per hour through three-quarters-inch tubing choke, total depth 3,571 feet. Pelican Natural Gas Co.'s No. 2 Spears, top sand 3,635 feet, initial production 120 bbls per hour through three-quarters-inch tubing choke, total depth 3,642 feet.

Prairie Oil & Gas Co.'s No. 1 Lockhart, top sand 3,633 feet, initial production 106 bbls. per hour through three-quarters-inch tubing choke, total depth 3,643 feet. Same company's No. 2 Lockhart, top sand 3,680 feet, initial production 95 bbls. per hour through three-quarters-inch tubing choke, total depth 3,687 feet. Vireca Corp.'s No. 1 M. T. Cole, top sand 3,544 feet, initial production 62 bbls. per hour through open tubing, total depth 3,552 feet.

Shell Petroleum Corp.'s No. 9 W. W. Elder, top sand 3,546 feet, initial production 105 bbls. per hour through open tubing, total depth 3,584 feet. Sinclair Oil & Gas Co.'s No. 13 Cole, top sand 3,598 feet, initial production 165 bbls. in 45 minutes through open tubing, total depth 3,604 feet. Same company's No. 14 M. T. Cole, top sand 3,640 feet, initial production 165 bbls. in 1 hour and 25 minutes, total depth 3,630 feet. Same company's No. 16 Cole, top sand 3,640 feet, initial production 140 bbls. per hour through open tubing, total depth 3,643 feet. Same company's No. 9-A King, top sand 3,520 feet, initial production 165 bbls. in 40 minutes through open tubing, total depth 3,549 feet. Same company's No. 11-A King, top sand 3,497 feet, initial production 165 bbls in 40 minutes through open tubing, total depth 3,525 feet. Same company's No. 10-A King, top sand 3,490 feet, initial production 165

(Continued on Page 32)

TEXAS COMMISSION ISSUES ORDER TO PREVENT WASTE IN PANHANDLE

AUSTIN, Tex., Nov. 2.—The Railroad Commission of Texas, following the hearing at Amarillo, Tex., has issued additional rules to be effective in the Panhandle district as of 7 a.m., November 1, 1931:

Not more than 55,000 bbls. of oil per day shall be produced from the Panhandle district, the commission being of the opinion that a daily production at this time in excess of 55,000 bbls. will create waste.

The daily amount of oil to be produced from each individual lease or property shall be determined by multiplying the total daily allowable production from the district by a fraction whose numerator is the total daily potential production of such lease or property and whose denominator is the total daily potential production of the district.

If the application of the rule to a well or wells producing water with the oil would tend to damage said well or wells and thereby create waste, the commission may authorize the deputy supervisor to grant exemptions from the application of these rules as to said well or wells. Whenever the production from contiguous leases is not ratable, the facts shall forthwith be submitted to the commission for action.

Nothing in the new rules shall be construed as impairing the effect of the "Marginal Well Law," nor to modify or nullify the provisions of the Common Purchaser Law.

Wastage of Gas

The commission has under consideration the matter of regulating gas production in the Panhandle district to prevent or minimize the wastage of natural gas now taking place and will issue a special order regulating natural gas production.

Application of Rules

The deputy supervisor shall prepare a schedule of the oil offered for market from each lease or property for each semi-monthly period, and each common purchaser, basing calculations on such schedule, shall take or purchase oil ratably from the leases or properties to which are connected the gathering facilities of his own, or affiliated company or companies, as defined in the said Common Purchaser Law.

It is recognized that pipe line companies purchasing oil or pipe line companies affiliated with purchasers of oil in the district are not connected with all wells and that it would be very expensive and would work serious inconvenience both to the producers and purchasers for each purchaser to be required to make pipe line connection with all wells in the district and to take oil ratably from each lease or property. In order to occasion the least possible inconvenience and expense, the deputy supervisor shall confer with the purchasers and the producers of oil in said district and shall assist in determining the leases or properties to be served by the various pipe line companies and purchasers so as to give to each lease and property its ratable share of the oil being purchased by common purchasers and to give to each such common purchaser its ratable share of the oil offered for market.

Whenever the deputy supervisor shall find that the owner of oil offered for market desires to sell such oil to a common purchaser but cannot get a connection and effect such sale, then the deputy supervisor shall forthwith report such facts to the commission, together with his recommendations, for final determination by the commission.

Irrespective of the amount of oil offered for market and of the amount of oil which purchasers desire to, and are able to contract for, the amount which may be purchased from any lease or property shall not exceed the amount of allowable production from such lease or property as defined or determined by virtue of any order of this commission in force at that time relating to the control of production, and in the event the total of the amount of oil which common purchasers are willing to purchase or take is greater than the amount of oil allowed to be produced from said district under orders of this commission, then, in determining ratable purchases, the amount which each purchaser is willing to take shall be reduced ratably to the point that the total figure will equal the amount of oil which, under the orders of this commission, may be produced.

Ward County Leads in West Texas

Activities There Continue. Chalk Hill Area, Archer County, Busiest in That Region. Dozen New North Central Texas Locations

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Nov. 2.—An interesting deal was made during the past week when the Plymouth Oil Co. purchased a one-half interest in the Benedum lease on 15,642 acres of the J. D. Suggs heirs' ranch in central Irion County. The well is carried on the drilling report as Davis and others' No. 1 Suggs, and is located in Section 3,081, in Block 28, H. & T. C. survey. Plymouth had taken over the well at 4,000 feet and was drilling ahead at 4,775 feet, drilling being directed from the Big Lake Oil Co. office at Texon in Reagan County. The Plymouth has a three-quarter interest in this company of which Levi Smith is president. He is also vice-president of Plymouth. The test had small oil flows at 3,218-27 feet and also at 3,232-38 feet. It is to be carried deeper in search of the 8,000-foot deep pay found in the Big Lake Field in the adjoining western county. This will be the second test to be drilling in Irion County in search of the Big Lake pay. Stanolind Oil & Gas Co. is the other company now drilling a deep test. It is located on the W. H. Williams ranch in the southeastern part of the county, and is fishing for tools lost at 6,730 feet. These are probably the two most important tests in West Texas at the present time, and although possibly not proving producers, will add much geological data for correlation work.

There are two more locations added to Ward County this week, this county being the most active in the district for the past few months. One well was completed in the county, and one was drilled deeper increasing production from 60 to 70 bbls. per day. This well was in the northern part of the county, in the O'Brien area.

D. H. Byrd has cleaned out the test formerly owned by John F. Shipley in western Ward County, on the Monroe ranch, and is deepening from 4,549 feet. He will carry the test to the Delaware lime or to 4,750 feet unless production is obtained. The test is in Section 3, Block 1, W & N. W. survey.

Stanolind Oil & Gas Co.'s No. 1 Brown in Section 26, Block B-29, an extension possibility in the Barker area, Ward County, encountered more gas at 2,243 feet and at 2,265 feet. The hole was bridged above the tools when the last increase was struck, and the crew is now cleaning out. It is estimated making more than 7,000,000 feet of gas.

There have been 1,274,000 acres of land released in West Texas by the major oil producing companies during the past 8 months. The Humble Oil & Refining Co. released the largest amount, over 260,000 acres. The Barnsdall released the smallest amount, over 1,000 acres. Some of this acreage was in blocks, but the majority of it was checkerboarded and scattered acreage in many different counties in which the companies had leases.

WEST TEXAS PRODUCTION
Week Ending October 31

County—	No wells	Prod.
Crane	377	16,040
Crockett	51	1,120
Ector	78	6,375
Fisher	78	951
Garza	2	0
Howard-Glasscock	544	26,255
Irion	9	70
Jones	87	1,411
Loving	46	3,780
Mitchell	111	1,751
Pecos	550	66,825
Reagan	355	25,370
Runnels	5	67
Scurry	5	0
Upton	263	4,575
Taylor	3	55
Ward	71	3,782
Winkler	595	36,755
Total production this week		195,182
Total production last week		196,004
Decrease		822

Wichita Falls District

Phillips Petroleum Co. is moving in a derrick to drill its No. 66 Macon-White, located 1,500 feet from the south and 660 feet from the east of Block 35, A. T. N. C. survey, Archer County. It was formerly completed in 1923 in the 1,600-foot sand, and will now be deepened to 2,300 feet. The well is in the Wilmot Field, approximately 6 miles north and slightly west of Chalk Hill.

Deeper drilling in the Chalk Hill area, Archer County, is the engrossing activity of this district, and the deep tests are being closely watched. The Consolidated Oil Co. and others' test on the Munger Estate in southwestern Wichita County, 1 mile east of Deep Oil Development Co.'s No. 1 Munger discovery, had a showing of oil in the Strawn sand at 3,785-96 feet, with light saturation. Base of the Gunsight was reported as 1,760 feet, with an elevation of 1,012 feet.

Kelly is rigging up a rotary for a 2,500-foot test on the Nichols ranch in Lot 1, Block 39, A. T. N. C. survey, 8 miles due north of Chalk Hill.

The district received 12 more locations this week, 4 in Archer, 5 in Young, 1 in Jack, 1 in Wichita and 1 in Wilbarger County. Twelve to 15 locations per week will no doubt be the limit in the district until the industry is on a much firmer basis.

Panhandle Area

There were five locations staked in the Panhandle district this week. Three were locations in Carson, one in Hutchinson and one in Moore County. No completions were reported, and many of the tests are standing shut in.

Ranger District

The Centennial Oil & Gas Co. completed a good oil producer in the Goldsboro Pool, northwestern Coleman County, this week, in its No. 5 Newton, the well making 600 bbls. of oil and 2,000,000 feet of gas per day at a total depth of 3,851 feet. The pay was topped at 3,830 feet. It is located in Block 519, St. Augustine survey. This well is in a gas producing area, and but few oil wells have been completed, one other having proved better than this well as an oil producer. The Oklahoma Natural Gas Co. is connected with the pool with a gas pipe line which serves the town of San Angelo with gas.

NORTH TEXAS PRODUCTION
Week Ending October 31

Panhandle district—	
Carson County	5,833
Gray County	43,586
Hutchinson County	13,317
Moore County	1,854
Wheeler County	447
Total production this week	65,037
Total production last week	65,089
Decrease	52
Wichita Falls district—	
Archer County	12,949
Baylor County	628
Clay County	542
Cooke County	1,642
Foard County	70
Haskell County	22
Jack County	2,102
Montague County	3,675
Throckmorton County	503
Wichita County	18,228
Wilbarger County	13,749
Young County	12,895
Total production this week	67,005
Total production last week	65,873
Increase	1,132
Ranger district—	
Brown County	3,091
Callahan County	1,610
Coleman County	2,268
Comanche County	777
Palo Pinto County	370
Eastland County	2,828
Shackelford County	3,437
Stephens County	4,449
Total production this week	18,830
Total production last week	18,601
Increase	229

COMPLETIONS IN WEST TEXAS

Ward County

Richardson and others' No. 10 O'Brien,

(Continued on Page 32)

WILDCAT OPERATIONS IN WEST TEXAS

Week Ending November 2

ARCHER COUNTY

Stoddy and Somer's No. 1 S. B. Herron, 1,270 ft. N, 1,270 ft. W of SE cor. section, T.E.&L. Sur. ..... Location.

George L. Pace's No. 1 J. R. Soody, 188 ft. N, 1,144 ft. W SE cor., Sec. 156, J. W. Harris Subd. of Club Ranch ..... Location for a 2,500-ft. test.

Schultz and Weaver's No. 6 F. C. Green, 1,050 ft. E, 150 ft. N SW cor. of 80-ac. lease, Jas. Levine Sur..... Location.

W. E. Maxson, Jr.'s No. 12 F. C. Green "B," 280 ft. S, 850 ft. E NW cor. 320 ac. tract, Jas. Levine Sur..... Location.

BREWSTER COUNTY

Company, well, farm name, section and block—	Remarks:
Brewster Oil Co.'s No. 1 fee, 2,640 ft. S and 2,598 ft. E of NW cor. Sec. 45, Blk. G-15, G.C.&S.F. Sur.	S.D. 1,935 ft.
E. L. Chapman's No. 1 Skinner, C SW SE Sec. 100, Blk. 2, G.C.&S.F. Sur.	S.D. 1,302 ft.
Trans-Pecos Oil & Gas Co.'s No. 1 Jones, 930 ft. from N and 2,500 ft. from E of Sec. 18, Blk. G-15, G.C.& S.F. Sur.	S.D. 2,900 ft.
Van McPhail's No. 1 McIntyre, SE cor. Sec. 59, Blk. 352, 7 miles south Alpine	S.D. 1,750 ft.

COCHRAN COUNTY

Penn Oil Co.'s No. 1 Myrick, C Labour No. 80 of League 129, Carson County School Lands ..... Drlg. 3,010 ft.

CONCHO COUNTY

Beesley et al's No. 1 Waring Estate, 400 ft. from N and E Sec. 163, T.&N.O. Sur. ..... S.D.

Turner et al's No. 1 Borsig, 150 ft. from S of NE cor. G. Emmig Sur. 130, 6 miles W of Paint Rock ..... S.D. 1,850 ft.

CRANE COUNTY

Southwest Oil Prod. Co. (Cranfill Bros.) and Penn Oil Co.'s No. 1 J. B. Tubb, 330 ft. from N and E of SW cor. of S 80 acres of NW cor. Sec. 3, Blk. B-27, P.S.L. Sur. ..... Show oil 3,128-35 ft.; drlg. 3,412 ft.

CROCKETT COUNTY

Doleman & Moore's No. 1 Ferner 2,135 ft. from N and 1,485 ft. from E of Sec. 36, Blk. 2, I.&G.N. Sur. .... Spudded and S.D.

CULBERSON COUNTY

Korrumpf et al's No. 1 Garren, 330 ft. S and W, Sec. 15, Blk. 79, Public School Land ..... S.D. 1,300 ft.

DAWSON COUNTY

Albaugh et al's No. 1 Robinson, C NW Sec. 46, Blk. M, E.L.&R.R. Sur. ..... To resume drilling.

ECTOR COUNTY

Weekly Oil Corp. et al's No. 1 Cowden, 1,980 ft. from N and W Sec. 33, Blk. 43, Twp. 2s, T.&P. Sur. .... Shut down 1,200 ft.

H. F. Wurtz' No. 1 E. A. Ibbetson et al, 330 ft. from N and E lines of NW, Sec. 16, Blk. 46, Twp. 3s, G.M. M.Br.&A. Sur. ..... S.D. 3,280 ft.

(Continued on Page 85)

WILDCAT OPERATIONS IN TEXAS PANHANDLE

Week Ending November 2

CARSON COUNTY

Company, well, farm name, section and block—	Remarks:
Empire G. & F. Co.'s No. 1 Poling, 1,320 ft. S and W, Sec. 28, Blk. Y-2, T.T.R.R. Sur.	S.D. 2,725 ft; T.P. 2,515 ft., 12,800,000 ft. gas.
Magnolia Pet. Co.'s No. 1 Connell, 330 ft. N and E, SE, Sec. 66, Blk. 4, H.&G.N. Sur.	S.D. 2,625 ft; T.P. 2,565 ft; 58,000,000 ft. gas.
Texhoma Nat. Gas Co.'s No. 1 Harrison, center NW, Sec. 40, Blk. 4, I.&G.N. Sur.	Drlg. 1,530 ft.
Texhoma Nat. Gas Co.'s No. 1 Dover, 1,335 ft. from S, 656 ft. from W, Sec. 81, Blk. 4, I.&G.N. Sur.	Drlg. 1,725 ft.
Texhoma Nat. Gas Co.'s No. 1 McLaughlin, C NW, Sec. 61, Blk. 4, I.&G.N. Sur.	Drlg. 2,400 ft; gas 2,380 ft.
Texhoma Nat. Gas Co.'s No. 2 Schaffer, center SE, Sec. 64, Blk. 4, I.&G.N. Sur.	Drlg. 2,345 ft.
Texhoma Natural Gas Co.'s No. 3 Schaffer, center NW, Sec 63, Blk. 4, I.&G.N. Sur.	Location.
Texhoma Natural Gas Co.'s No. 1 Urbanczyk, center NE, Sec. 4, Blk. 4, I.&G.N.. Sur.	Location.

CHILDRESS COUNTY

C. L. Sloan et al's No. 1 B. P. Smith, Sec. 49, F. P. Knott lands ..... T.D. 5,000 ft.

COLLINGSWORTH COUNTY

Dixon et al's No. 1 Bell, 830 ft. N, 1,320 ft. W, Sec. 102, Blk. 21, H.&G.N. Sur. ..... S.D. 2,508 ft.

Downey et al's No. 1 Beasly, SE cor. SW SE, Sec. 95, Blk. 15, H.&G.N. Sur. ..... Rigged up.

DEAF SMITH COUNTY

Western Union Oil Co.'s No. 1 Farwell, center NW, Sec. 18-3n-2e ..... Rig.

GRAY COUNTY

Anderson et al's No. 2 Vollmert, 330 ft. N and W, SW, Sec. 140, Blk. 3, I.&G.N. Sur. ..... Spudded.

Back & Barber's No. 1 Back, 660 ft. from S and 330 ft. from W, Sec. 140, Blk. 25, H.&G.N. Sur. ..... Shut Down.

Boyes et al's No. 1 Colebank-Morse, 330 ft. NE, Sec. 65, Blk. 25, H.&G.N. Sur. ..... Spudded and S.D.

Brown et al's No. 1 Duncan, 330 ft. S and E, NW, Sec. 93, Blk. 3, I.&G.N. Sur. ..... S.D. 2,650 ft.

Parton Holt and Shell Pet. Corp.'s No. 1 Morse, 330 ft. S and E, Sec. 6, Blk. 26, H.&G.N. Sur. ..... Drlg. 2,110 ft; show oil 1,960 ft.

Jean Pet. Co.'s No. 1 Furneaux Bros., 330 ft. N and W, cor. SE, Sec. 200, Blk. B-2, H.&G.N. Sur. ..... 6,000,000 ft. gas at 2,825-50 ft.; S.D. 3,005 ft.

Graham et al's No. 1 Webb, 330 ft. from N and E of E half NE, Sec. 62, Blk. 25, H.&G.N. Sur. ..... Cellar.

Jewel Oil Co.'s No. 1 Meers, 330 ft. from S and W of NW SW, Sec. 106, Blk. 3, I.&G.N. Sur. ..... Rig. up Standard Tools.

(Continued on Page 85)

Pipe Line Construction News

Railroads Interested In Construction of Gasoline Pipe Lines

That railroads as well as oil companies are considering seriously the question of additional gasoline pipe lines, as forecast in The Oil and Gas Journal of October 22, is indicated by the following story from Pittsburgh, Pa., published in the New York Journal of Commerce:

"The large oil companies will spend considerable time this winter deliberating on the advisability of constructing gasoline pipe lines from oil fields to markets. Their decisions will have an important effect on next year's steel pipe business, but political and financial, as well as economical, considerations will dictate the 1932 programs.

"The railroads, perhaps tardily, have come to realize they must do something about pipe lines. Railroad pressure on Congress this winter, bolstered by their financial showing, will be strong for law changes which will permit them to enter the fields of competitive transport.

"No new form of pipe line regulation which they might secure as a concession will avail the railroads much unless they can enter the business themselves. Such an accomplishment, along with a law which would completely divorce pipe lines from integrated oil companies, would be a fulfillment of fond expectations.

"While this might seem impossible, it is not altogether improbable, and the oil companies of the United States face a legislative battle to maintain the legal status quo in pipe lines moving liquid fuels. The case is not dissimilar to the plan to transfer the Bessemer & Lake Erie Railroad from the ownership of the United States Steel Corporation to one of the large railroad sytems.

"The crude oil lines of earlier days did not bother the railroads, although they would have liked to have had the business in tank car shipments. They recognized that the nation's entire crude oil supply never could have been moved satisfactorily in tank cars. Natural gas lines, of course, have no place in a railroad's thoughts.

"But the advent of gasoline lines has changed the picture entirely, and it is certain that the threats of the development of pipe lines for other commodities, even though in the distant future, have aroused the railroads to the need of action. Movement of liquid chemicals by pipe lines for short distances is becoming less uncommon.

"Gasoline lines apparently have proven their efficiency to the large oil companies that can keep them operating at capacity. The maximum load is carried at the beginning of the line and the minimum load at the distant terminal. Bulk stations are located along the line and trucks can distribute economically 50 miles from the line, making a territory 100 miles wide along the length of the line.

"The railroads find difficulty in combating gasoline lines because the tariffs filed by the line companies are almost identical with those charged by the railroads. Thus the railroads cannot claim the line movement is cheaper than by tank car and that the line is taking their customers away."

LATHROP GATHERING LINE

DALLAS, Tex., Nov. 2.—John Dye, pipe line contractor, Gladewater, Tex., is laying several miles of gathering line for The Texas Pipe Line Co. in northern Gregg County, in the Lathrop area. This line will tie into The Texas-Empire Pipe Line Co.'s 12-inch pipe line serving the district and running to the Gulf Coast.

PROPOSE NEW LINE TO SERVE KANSAS CITY

KANSAS CITY, Mo., Nov. 2.—The Kansas City Industrial Fuel Gas Co. has filed application with the Public Service Commission for authority to construct and operate a gas distribution system in Kansas City, Jackson and Clay Counties. The company states it was granted a franchise by Kansas City last February and now has contracts with responsible producers of natural gas for the construction of a pipe line to supply the new company with gas.

The application further states that consumers in Kansas City desire a competing company to the Kansas City Gas Co., which is supplied by the Cities Service Gas Co.

The chairman of the Commission, Milton R. Stahl, stated that a hearing on the application will be held early in November.

The Indiana Public Service Commission recently dismissed an application by the Manufacturers Natural Gas Association, Inc., for permission to serve a limited number of industrial consumers in Indianapolis, in competition with the Citizens Gas Co. It was held that the Commission had no jurisdiction because the applicant did not offer service to the public.

LAY SERVICE LINES TO EAST TEXAS POINTS

DALLAS, Tex., Nov. 2.—The United Gas Public Service is starting a gas service extension program embracing 25 miles of 4-inch mains, involving an expenditure of $150,000, to supply gas by November 15 to all concentrated population centers in the East Texas oil area which justify the laying of service mains.

One of the features of the program will be the laying of a 14-mile 4-inch gas main along the highway from Longview to Gladewater to supply all intermediate points such as Willow Springs.

In addition, the program calls for service extensions in Longview, Gladewater, Kilgore and Henderson. Services mains will be extended into the oil field population concentration points such as Teneryville, Turner Town, Camp Switch and throughout the field.

The Texas Construction Co., building unit of the United Gas Public Service Co., will establish supervision headquarters in Longview.

RUSSIAN PIPE LINE

Laying of the Grosny-Ukraine pipe line through the Don river, at a depth of 33 feet, is completed. It is hoped to complete, in three and one-half months at longest, the section from Armavir (near Grosny) to Rostov-on-Don.

CHICAGO LINE HAS TOTAL OF 5,940 AUXILIARY H. P.

Three Cooper-Bessemer units totaling 1,260 brake horsepower and generating 840 kilowatts in auxiliary plant at Fritch, Tex., on Chicago line.

It is difficult to talk or write about the big Chicago line, with its high pressures and long mileage and not use superlatives. Even the auxiliary power units, on a natural-gas line of such magnitude, are bound to loom up importantly. Continuous generation of electricity for the ten large compressor stations requires equipment with a combined rating of about 5,000 K.V.A., or 4,000 kilowatts.

The largest electric power plant on this $75,000,000 gas line is at Fritch, Tex. Nine similar plants are spaced at intervals of about 95 miles along the line to Illinois, and each serves as an auxiliary to a main compressor plant. All of the 21 generator units are of the very latest type. They are specially designed to operate in parallel, so that the generators in each station can be turned into the same electric system on the grounds.

In the first generating plant there are three Cooper-Bessemer vertical gas engines with an individual rating of 420 brake horsepower. Each engine has six cylinders, with the usual 14¾-inch bore and 16-inch stroke. And each engine direct-drives a 280-kilowatt, 2,400-volt generator at 300 r.p.m. Alternating current is distributed to the various motor-driven auxiliaries (such as fuel-gas compressors, water pumps, etc.) and to the extensive lighting system inside and outside the different buildings.

In each of the remaining auxiliary plants, there are two Cooper-Bessemer vertical gas engines with an individual rating of 260 brake horsepower. Each engine is the four-cylinder, 14¾"x16" type, directly connected to a 175-kilowatt. 480-volt, three-phase, 60-cycle alternating current generator.

SUPPLY FOR DETROIT IS BEING NEGOTIATED

PITTSBURGH, Pa., Nov. 2.—John Morgan, city statistician of Detroit, declared last week that negotiations are in progress between the Detroit City Gas Co. and the Columbia Gas & Electric Co., to bring natural gas into Detroit for both small consumers and large users, and Charles W. Bennett, vice president and general manager of the Detroit City Gas Co., admitted that negotiations are under way.

Mr. Bennett said the problems of depression, which make consumption uncertain, and the threat of states to pass laws taxing the flow of gas through their territories in pipe lines, make it difficult to come to terms. He believes natural gas is coming to Detroit, but cannot tell just when.

In this center of the nation's gas business where every natural gas project is of paramount interest, the plans to bring natural gas to Detroit represent an important development. First discussions were begun late in 1929, from which time, even during the lapse in negotiations, it was always expected that the Columbia Gas & Electric system would be the source of supply for Detroit.

Whether the gas for Detroit will be provided through an extension of the Panhandle Eastern Pipe Line, which is owned by Columbia Oil & Gasoline Corp. and Missouri-Kansas Pipe Line Co., or through the extension of the present Columbia line system from Toledo is a problem now being discussed, but it is likely that Detroit ultimately will receive Texas and Kansas gas.

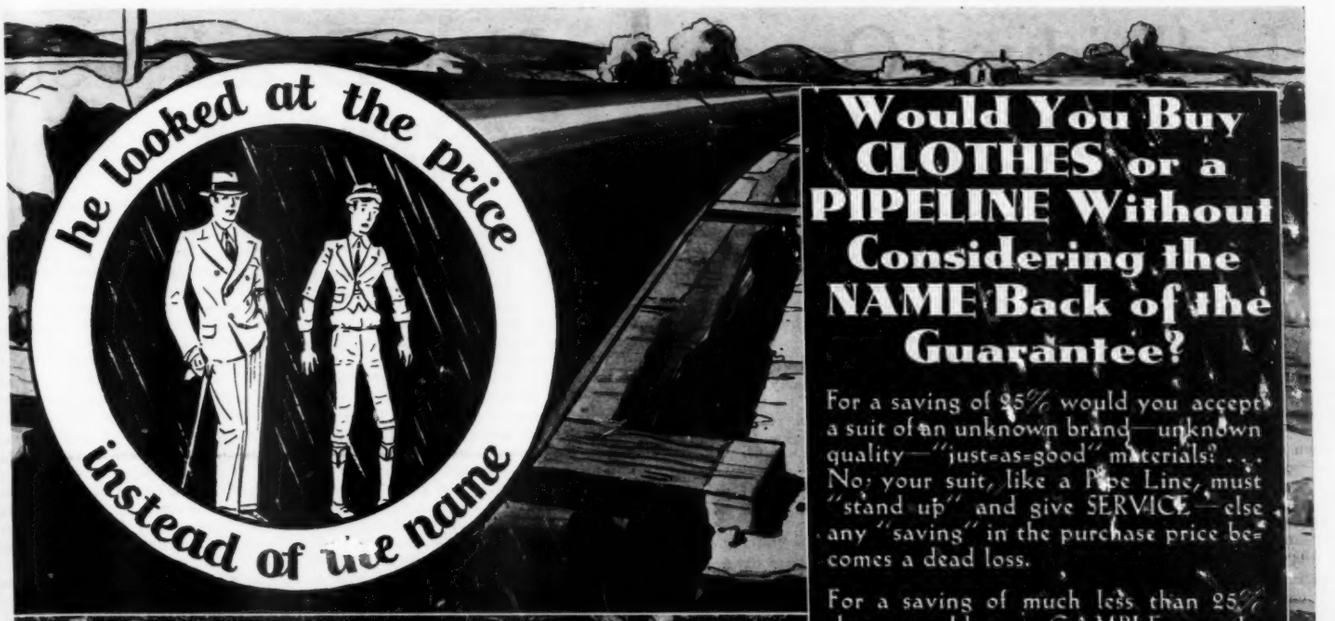
Detroit City Gas Co., is owned by American Light & Traction, which in turn, is controlled by United Light & Power. United Light & Power has a 35 per cent interest in Northern Natural Gas, which has an extensive pipe line system from the Texas Panhadle, serving parts of Nebraska, a considerable portion of Iowa and now extending into South Dakota and Minnesota with St. Paul and Minneapolis as the ultimate goal.

REGINA PROJECT OFF; NEW LINE PROPOSED

CHATHAM, Ontario, Oct. 31.—Announcement has been made that Power Corp. of Canada has abandoned its project for supplying natural gas to Regina, Sasketchewan, from the Bowdoin Field in northern Montana. The tentative franchise was to have been submitted to the burgesses of Regina on October 30. No reason has been given for the action of the company, but it is understood that difficulty was experienced in securing the necessary license to export gas from the United States to Canada. The project involved construction of a 174-mile pipe line from the Bowdoin Field to Regina and a complete distributing system, and tentative contracts had been made for supplying municipal institutions, while between 10,000 and 12,000 domestic installations were anticipated.

A previous franchise to Tri Cities Utilities, Ltd., backed by C. O. Moore and associates of New York, to pipe gas to Regina from the Kinsella Field in Alberta was approved by the Regina council earlier in the year but failed to secure the necessary majority on submission to the burgesses.

Withdrawal by the Power Corp. from its project of marketing natural gas to Regina has revived the interest of independent oil operators of the Turner Valley in the Saskatchewan cities as prospective markets for their surplus gas. Pipe line plans now being discussed contemplate other Alberta producing areas, at present shut in, as potential reserves to supplement the Turner Valley gas.



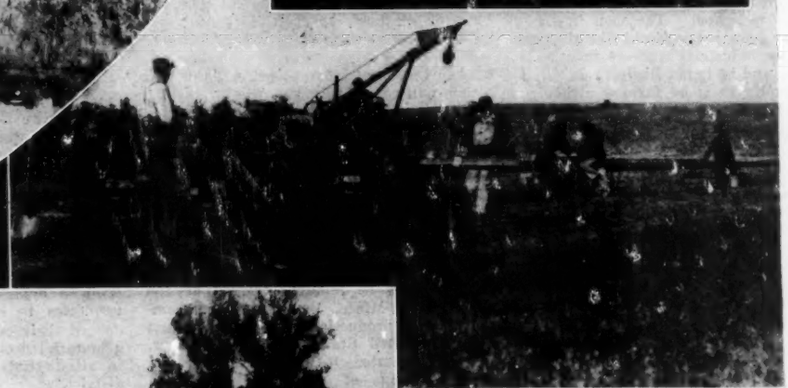
Would You Buy CLOTHES or a PIPELINE Without Considering the NAME Back of the Guarantee?

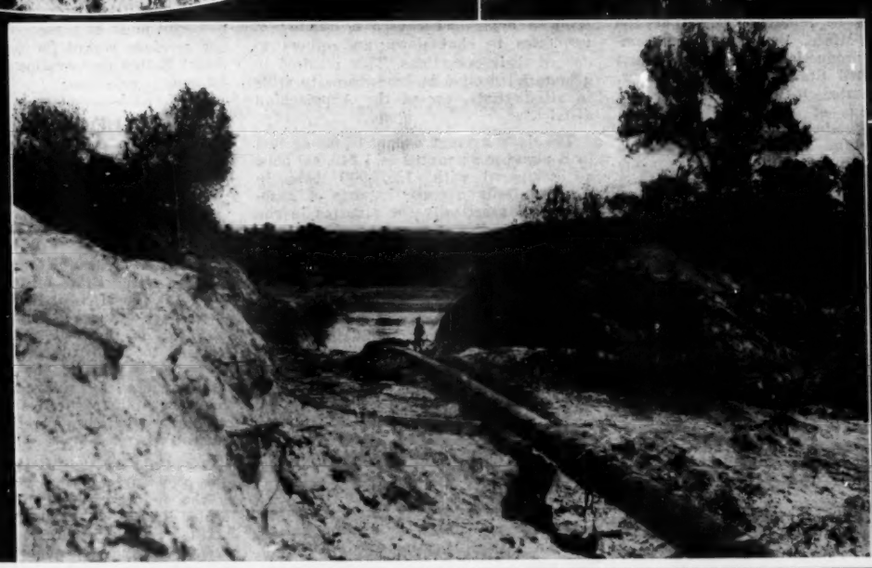
For a saving of 25% would you accept a suit of an unknown brand—unknown quality—"just-as-good" materials? . . . No; your suit, like a Pipe Line, must "stand up" and give SERVICE—else any "saving" in the purchase price becomes a dead loss.

For a saving of much less than 25% then, would you GAMBLE on the "Quality" of your Pipe Line?

In either case, the NAME back of the guarantee is your surest guide to certain satisfaction. INVESTIGATE IT—before you award the contract.

"A Truman-Smith Bid is the Most Economical in the Long Run"





A TRUMAN-SMITH BID IS THE MOST ECONOMICAL IN THE LONG RUN.

Truman-Smith laid lines are in use throughout the Mid-Continent by dozens of prominent Operators. Their ability to "stand up" under all climate and topographic conditions is now well recognized . . . . Ask any Truman-Smith customer

The TRUMAN-SMITH CONST. Co.

EL DORADO, KANSAS.

Individual Operator Not Dead Yet

Needed as Discoverer of New Reserves. Smaller Units Have Advantage in Initiative and Readiness to Take Chance

By Dorsey Hager

"The day of the individual oil producer is past. Individualism is bound to go, and four or five big organizations only will be left in the oil business." This is the current plaint wherever one travels in oil country. Pitiful if true—but is it true?

For 21 years I have been in the oil business and in that time I have seen several booms and depressions. During the booms "the sky was the limit," during the depressions the individual oil men have been very sick and could see no ray of hope for the future. Black pessimism drove out the optimism before current. Artists are called temperamental but oil men are not far behind them in their ability to soar to the heights or to plumb the depths of their emotions.

Conditions in the oil business are at present certainly unsatisfactory for the individual oil man. Prices for crude oil are low, in fact below the cost of production. An abundant supply of crude oil is in sight for some time to come. If all of this oil were thrown on the market at once (which will not be the case) this supply would keep the prices down until all the smaller oil producers were starved out, as the operator in a flush field can market only a portion of his oil and is indeed fortunate if he can get by without losing money. But at present most oil operators are eating three square meals a day, are well clad and are sending their children to school. The men in the oil industry have not suffered like the farmer or the industrial workers in other industries and he is not likely to do so. He will get by in some fashion although a few men will fall out.

More Individual Operators Today

There are, I venture to say without having any statistical information at hand, more individual oil men in business today than ever before in the history of the oil industry. Also there are more large oil and gas concerns, despite the mergers, than a few years ago. Large oil companies in themselves are no more efficient than the smaller oil producer, if as much so. The law of diminishing returns acts in the oil business as in other lines of business. As a concern grows very large there is a flagging of individual interest, and business takes on a routine that is too often the forerunner of stagnation. Too much "red tape" and too much "buck passing" develops to be healthy. It costs more to do business and the profits are relatively less. Any careful individual oil producer knows that he can drill wells, and operate a lease more efficiently than a large concern because he gives more personal attention to his work. If oil is to be produced the independent oil producer will be able to produce it at as low a cost as the major concerns.

In prospecting for oil the same relative efficiency holds true. The large concerns have staffs of able geologists but there is too often too much lag between the geological and the executives who determine the company policies. Most company geologists are conservative and they must sell headquarters on the merits of an area. If the play is "hot" there is little difficulty but in a new area headquarters is often lukewarm because there are numerous business factors other than geology to be considered. The individual oil man or a smaller company is usually more free to move. If his geologist is convinced that there is a chance to find oil or gas the individual operator figures on getting the acreage for a well and pays less for it than a large concern would do. Then he figures out the concerns that will buy acreage or interests, or perhaps will raise money from outsiders. In some way he will get a well started even if he does not have enough to drill the well himself. He is confident that a new field will yield him large returns wherever it may be located. Perhaps he is too optimistic but history justifies that view.

Discoveries by Small Operators

The new oil fields today that have brought the oil industry to the present unsatisfactory condition were opened by individuals or minor concerns. Kettleman Hills, Calif., was opened by the Milham Oil Co. East Texas was opened by Joiner. The present play in eastern Colorado was opened by a group of "green horns" to the oil business although the second well was brought in by the Reiter-Foster concern. The Hugoton gas field was opened by individuals, Bill McKnabb and associates, and the Dundee gas field in south central New York was opened by the Belmont Quadrangle Drilling Co., Bradford men. This new gas field started the big "play" in New York and northern Pennsylvania. True, the major oil concerns have also opened several new fields but the new and spectacular oil and gas fields have been opened by the smaller concerns who took chances in new areas. Minor concerns are not "back numbers" and are not "dead" by any means. Once let the oil business improve and there are plenty of men with nerve and ability to induce capital to speculate in the oil business even if the oil producer lacks money to go ahead himself. New money flows into the oil business when the country is prosperous, and that time will come again.

The major companies with their organizations will do much of their own drilling but they will also buy leases and interests around drilling wells, and will be in the market for oil production if oil is found. All the oil territory has not been found by any means. Pessimistic predictions of all the oil fields being known are far from true. It will be increasingly difficult to find new oil and gas fields but also that will mean larger returns to those who do discover them.

Pessimism reigns now in 1931 but oil men have lived through such low times before. This is the longest pull that the oil industry has experienced (for the oil business was in none too good a condition before the 1929 stock market break) but there must be an end to the depression and when it does come there will be a place for the individual oil man. He will still be found bringing in oil and gas fields in the out of way places, or going into the old fields finding places that were passed over. Perhaps I have too much optimism but history has justified these views. True, business conditions have changed somewhat. There is a movement towards centralization in the oil business, an effort to effect stabilization, there is some state control, there is conservation and proration and unitization, there is the federal land withdrawal but despite all these changed conditions a "wildcatter" opened East Texas in 1930. No one "can laugh that off."

Large Companies Seek Reserves

There will not be many such oil fields but the dreams of the individual oil man will drive him to search for each new area. The oil man is temperamental and a gambler, also somewhat of a dreamer. When down he is in the doldrums, when up he sometimes achieves the seemingly impossible, and he is essential to the oil business. Were it not for the individual oil man the large oil concerns would not now be so large. Left alone they would have opened an occasional oil field but they would not have the numerous new fields that the thousands of individuals have sought for and found. The "wildcatter" or pioneer opens most of the fields, the large major concerns buy him out and profit from the oil so obtained.

The large number of new fields opened in the past 20 years have provided the major oil companies with plenty of oil for their refineries and enabled them to expand their markets. This has made the large concerns far larger and they can thank the smaller oil producers for enabling them to grow so powerful. Only a few of the major oil concerns have developed oil reserves of their own. Most of them have built up reserves by purchase or depend upon the smaller oil producers to open new oil fields to furnish oil for their future needs. Most oil concerns must search unceasingly for new oil fields or buy into new fields. Accordingly the individual oil producer must be encouraged and even assisted in getting his tests started. Wells must be drilled deeper but they cost little more now days than wells half their depth cost a few years ago. Individual oil men face 6,000 to 7,000 feet of drilling as readily now as they undertook to drill 3,000 to 4,000 feet 10 years ago.

The old picturesque type oil man is fast dying out. The profane, tobacco chewing, hard drinking operator is giving place to a more business like (and perhaps a more sophisticated type) but one none the less willing to take chances in new areas, only more business-like in the way he sets about it. The oil business is growing stiffer each year but there is still a place for the individual oil operator or small concern who can adjust himself to changed conditions. Individual initiative still counts and the rugged individualism that has made our country so powerful must be preserved but that does not preclude regard for fellow oil operators. Better co-operation among all the oil men is essential.

U. S. BUREAU OF MINES REPORT FOR MONTH OF SEPTEMBER, 1931

According to reports received by the Bureau of Mines, Department of Commerce, the production of crude petroleum in the United States during September, 1931, amounted to 63,636,000 bbls., a daily average of 2,121,000 bbls. This, the lowest production in more than five years, represents a decline of 86,000 bbls. from the daily average of the previous month, and is 253,000 bbls., or 11 per cent, below the output of a year ago. Practically all of the decline in output in September resulted from the shutdown of the East Texas Field. The field was closed August 17 and was not reopened until September 5, when the wells were allowed to produce 225 bbls. daily. Its daily average production in September amounted to 343,000 bbls. as compared with 460,000 bbls. daily for the previous month. The production in the California fields remained virtually stationary in September. The shutdown of all but the "stripper" wells in Oklahoma was continued throughout the month and the output of the state amounted to only 280,000 bbls. daily, or slightly less than in August.

Stocks of crude petroleum continued to reflect the curtailment in production and declined nearly 12,000,000 bbls. in September. This was somewhat less than the withdrawal in August, due mainly to a falling off in crude runs to stills. Stocks of refined oils, principally gasoline, fell off approximately 2,000,000 bbls., making a total withdrawal from all stocks of about 14,000,000 bbls. This total, while large, did not quite come up to the record withdrawal of the previous month.

Refined Products

The decline in the price of refined products, chiefly gasoline, to a very low level in September caused a number of refineries to shut down and others to curtail their operations. This resulted in a material decline in crude runs to stills in all districts, except the Appalachian district.

The daily average output of motor fuel in September amounted to 1,249,000 bbls. as compared with 1,267,000 bbls. in August. Daily average imports of gasoline were practically the same as in the previous month but exports declined from 136,000 bbls. daily in August to 112,000 bbls. daily in September. Stocks of motor fuel continued to fall off, though the withdrawal was considerably below that of August. Total stocks of motor fuel on hand September 30 amounted to 35,033,000 bbls. as compared with 36,405,000 bbls. on hand on August 31. The daily average indicated domestic demand for motor fuel in September amounted to 1,225,000 bbls., which represents a decline of 4 per cent from August and is below the demand of September, 1930. At the current rate of domestic demand, the motor fuel stocks of September 30 represent 26 days' supply as compared with 27 days' supply on hand a month ago and with 27 days' supply on hand a year ago.

The refinery data of this report were compiled from schedules of 363 refineries with an aggregate daily recorded crude oil capacity of 3,764,960 bbls., covering, as far as the bureau is able to determine, all operations during September, 1931. These refineries operated during September at 66 per cent of their recorded capacity, given above, as compared with 363 refineries operating at 69 per cent of their capacity in August.

MIRI FIELD REPORTED AS LARGELY DEPLETED

WASHINGTON, D. C., Nov. 2.—From private sources interesting information has been received here concerning the principal oil field of North Borneo. This field is in the State of Sarawak and is known as the Miri oil fields, long reported to have a large potential production, with half of the wells shut in, but now declared to be largely depleted and with no wells shut in for the purpose of reserving the oil for future use. However, there are other properties of North Borneo under British protection still undeveloped.

Conditions at the Miri oil fields have long been surrounded with much secrecy as the country in which the wells are located is isolated by swamps and jungles. At the present time there are about 371 wells there and it is reported that before the end of this year other wells will be drilled to bring the total up to 600. But the field is declared to be definitely on the decline, although only from 25 to 30 of the wells have been abandoned and the drillers have met with only from 10 to 15 dry holes.

The Miri refinery located at Lutong has handled as much as 14,000 bbls. of crude oil daily but the supply has gradually dropped to about 11,400 bbls.—C. E. K.

MARK THIS FACT:

Wrought Iron for "Hot Spots" —that's the Trend in Line Pipe

HOT SPOTS—every line-pipe superintendent knows them! Salt water drainage, alkali areas, river crossings, cinder fills, gypsum areas, gumbo soil. That's where corrosion lurks. That's where shutdowns originate—the breeding places of high-cost replacements, expensive tie-ups and loss of revenue.

You can get away from the grief that "hot spots" brew—*follow the trend to Byers Genuine Wrought Iron Pipe.* Old pipeline service histories tell the facts—where corrosion is excessive, wrought iron has no equal.

Since 1864, Byers Genuine Wrought Iron Pipe has been a staunch ally of oil engineers. Today, by reason of modern manufacturing practices, Byers is producing the finest wrought iron ever made.

Byers oil country engineers stand ready to support wrought iron's claim with case histories—with facts taken from the service records of old pipe-lines. They can help you reduce your "hot spot" and pipe protection overhead. Try them! A. M. BYERS COMPANY, Pittsburgh, Pa. Established 1864.

BYERS GENUINE WROUGHT-IRON PRODUCTS

BYERS GENUINE WROUGHT IRON PRODUCTS

Pipe	Nipples	Welding Elbows	Bar Iron
Tubing	Couplings	Plates & Sheets	Billets
	Casing	Special Bending Pipe	

AN INVESTMENT—NOT AN OUTLAY

EAST TEXAS FIELDS

(Continued from Page 26)

bbls. in 25 minutes through open tubing, total depth 3,510 feet. Same company's No. 12-A King, top sand 3,430 feet, initial production 165 bbls. in 35 minutes through open tubing, total depth 3,452 feet. H. R. Smith's No. 1 D. M. Peterson, top sand 3,543 feet, initial production 110 bbls. per hour through open tubing, total depth 3,603 feet. H. R. Spear's No. 1 Church Lot, top sand 3,642 feet, initial production 100 bbls. per hour through open tubing, total depth 3,654 feet.

The Texas Co.'s No. 1 Walker, top sand 3,571 feet, initial production 95 bbls. in two hours through three-quarters-inch tubing choke, total depth 3,589 feet. Same company's No. 5 Wylie Davis, top sand 3,558 feet, initial production 151 bbls. per hour through three-quarters-inch tubing choke, total depth 3,617 feet. Weaver-Crim's No. 1 Peterson, top sand 3,599 feet, initial production 170 bbls. per hour through open tubing, total depth 3,632 feet.

J. V. Bradley's No. 1 Cole, top sand 3,532 feet, initial production 57 bbls. per hour through 1½-inch tubing choke, total depth 3,540 feet.

Rusk County

Byrd-Frost Oil Co.'s No. 1 H. P. Leverett, top sand 3,656 feet, initial production 100 bbls. per hour through three-fourths-inch tubing choke, total depth 3,681 feet. Cordova Union Oil & Gas Co.'s No. 4 J. S. Bean, top sand 3,632 feet, initial production 165 bbls. per hour pinched through tubing, total depth 3,662 feet. Everett Drilling Co.'s No. 1 H. E. Crews, top sand 3,802 feet, initial production 165 bbls. per hour pinched through tubing, total depth 3,804 feet. Friedman Oil Corp.'s No. 1 Mayfield, top sand 3,662 feet, initial production 16 bbls. in one and one-half hours through fifty-sixty-fourths-inch tubing choke, total depth 3,667 feet. Gulf Production Co.'s No. 7-C Christian, top sand 3,689 feet, initial production 120 bbls. per hour through three-fourths-inch tubing choke, total depth 3,699 feet. Kathaleen's No. 2 Peterson, top sand 3,630 feet, initial production 100 bbls. per hour through one-half-inch tubing choke, total depth 3,640 feet.

Magnolia Petroleum Co.'s No. 2 V. Barton, top sand 3,713 feet, initial production 157 bbls. first 15 minutes through 4-inch line and three-fourths-inch tubing choke, total depth 3,719 feet. Same company's No. 10 W. P. Moore, top sand 3,675 feet, initial production 142 bbls. in 15 minutes through one 4-inch line and three-fourths-inch tubing choke, total depth 3,681 feet. Republic Production Co.'s No. 1 J. H. Scroggins, top sand 3,670 feet, initial production 40 bbls. in 30 minutes through 1½-inch tubing choke, total depth 3,685 feet. Shell Petroleum Corp.'s No. 4 D. Wells, top sand 3,637 feet, initial production 161 bbls. per hour through open tubing, total depth 3,642 feet. Snowden & McSweeney's No. 4 Bean, top sand 3,628 feet, initial production 70 bbls. per hour through three-fourths-inch tubing choke, total depth 3,669 feet.

Stanolind Oil & Gas Co.'s No. 2 Rena Christian, top sand 3,672 feet, initial production 165 bbls. per hour through six-sixty-fourths-inch tubing choke, total depth 3,675 feet. Stroube & Stroube's No. 1 Barton, top sand 3,705 feet, initial production 165 bbls. per hour pinched through tubing, total depth 3,751 feet.

Tidal Oil Co.'s No. 6 J. R. Beal, top sand 3,658 feet, initial production 370 bbls. per hour through open tubing, total depth 3,666 feet. Woodley Petroleum Co.'s No. 3 Ladd, top sand 3,608 feet, initial production 180 bbls. per hour through thirty-four-sixty-fourths-inch tubing choke, total depth 3,628 feet. Deep Rock Oil Co.'s No. 1 Stovall, top sand 3,608 feet, initial production 78 bbls. per hour through open tubing, total depth 3,635 feet. Devonian Oil Co.'s No. 5 Millstead, top sand 3,657 feet, initial production 95 bbls. per hour through open tubing, total depth 3,747 feet.

M. H. Durbin and others' No. 1 Holland, top sand 3,645 feet, initial production 101 bbls. per hour through open tubing, total depth 3,740 feet. East Texas Refining Co.'s No. 1 Barksdale, top sand 3,680 feet, initial production 130 bbls. per hour through open tubing, total depth 3,700 feet. R. W. Fair's No. 1 fee, top sand 3,627 feet, initial production 106 bbls. per hour through open tubing, total depth 3,663 feet. Falcon Oil Co.'s No. 1 T. O. Mason, top sand 3,630 feet, initial production 110 bbls. per hour through open tubing, total depth 3,642 feet.

Gulf Production Co.'s No. 2-C Mayfield, top sand 3,649 feet, initial production 105 bbls. per hour through three-fourths-inch tubing choke, total depth 3,659 feet. Same company's No. 5 Turner, top sand 3,757 feet, initial production 80 bbls. per hour through three-fourths-inch tubing choke, total depth 3,766 feet. Same company's No. 7 Turner, top sand 3,695 feet, initial production 82 bbls. per hour through three-fourths-inch tubing choke, total depth 3,701 feet. W. R. Hamilton's No. 1 M. L. Thompson, top sand 3,734 feet, initial production 148 bbls. per hour through open tubing, total depth 3,754 feet. Hollifield and others' No. 1 J. L. Griffin, top sand 3,616 feet, initial production 65 bbls. per hour through three-fourths-inch tubing choke, total depth 3,646 feet.

Humble Oil & Refining Co.'s No. 3 J. R. Box, top sand 3,745 feet, initial production 103 bbls. per hour through three-fourths-inch tubing choke, total depth 3,782 feet. Same company's No. 4 First Guaranty Bank, top sand 3,690 feet, initial production 124 bbls. per hour through three-fourths-inch tubing choke, total depth 3,702 feet. Same company's No. 4 P. R. Querin, top sand 3,690 feet, initial production 119 bbls. per hour through three-fourths-inch tubing choke, total depth 3,735 feet. Same company's No. 4 Jones Fuller, top sand 3,622 feet, initial production 114 bbls. per hour through three-fourths-inch tubing choke, total depth 3,684 feet. Same company's No. 6-B Kangerga, top sand 3,622 feet, initial production 117 bbls. per hour through three-fourths-inch tubing choke, total depth 3,663 feet. Same company's No. 4 W. A. Mulliken, top sand 3,596 feet, initial production 61 bbls. per hour through three-fourths-inch tubing choke, total depth 3,699 feet. Same company's No. 3-B J. E. Sexton, top sand 3,625 feet, initial production 96 bbls. per hour through three-fourths-inch tubing choke, total depth 3,712 feet. Same company's No. 1 Wooster,, top sand 3,728 feet, initial production 98 bbls. per hour through three-fourths-inch tubing choke, total depth 3,789 feet. H. L. Hunt's No. 3-C Farr, top sand 3,606 feet, initial production 105 bbls. in 30 minutes through tubing, total depth 3,640 feet. H. L. Hunt's No. 1 Sue Hale, top sand 3,625 feet, initial production 15 bbls. per hour through 2½-inch tubing, total depth 3,691 feet. H. L. Hunt's No. 1 Gus Johnson, top sand 3,815 feet, initial production 32 bbls. per hour through open tubing, total depth 3,819 feet.

International Oil Co.'s No. 1 L. J. Pinkston, top sand 3,608 feet, initial production 70 bbls. per hour through open tubing, total depth 3,650 feet. Kirby Petroleum Co.'s No. 2 Joe Williams, top sand 3,664 feet, initial production 128 bbls. in 30 minutes through open tubing, total depth 3,777 feet. Lucy Petroleum Co.'s No. 4 Maxwell, top sand 3,632 feet, initial production 75 bbls. per hour through 1-inch tubing choke, total depth 3,690 feet. Mid-Kansas Oil & Gas Co.'s No. 4 F. E. Moore, top sand 3,634 feet, initial production 125 bbls. per hour through open tubing, total depth 3,690 feet. Prairie Oil & Gas Co.'s No. 5 J. B. Wilson, top sand 3,632 feet, initial production 169 bbls. per hour through three-fourths-inch tubing choke, total depth 3,637 feet. R. M. V. Oil Co.'s No. 5 J. H. Birdwell, dry and abandoned.

Roeser & Pendleton's No. 4 Ras Pool, top sand 3,692 feet, initial production 145 bbls. per hour through open tubing, total depth 3,730 feet.

Sinclair Oil & Gas Co.'s No. 13 Kinney, top sand 3,626 feet, initial production 165 bbls. in 50 minutes, total depth 3,700 feet. Same company's No. 5-A Mayfield, top sand 3,739 feet, initial production 175 bbls. per hour through open tubing, total depth 3,747 feet. Same company's No. 4-B Mayfield, top sand 3,602 feet, initial production estimated 165 bbls. per hour through open tubing, total depth 3,615 feet. Same company's No. 7 Wilson, top sand 3,629 feet, initial production 165 bbls. in 45 minutes through tubing, total depth 3,639 feet. Stroube-Collins and Wheelock's No. 2 Pinkston, top sand 3,601 feet, initial production 90 bbls. per hour through open tubing, total depth 3,656 feet. Sun Oil Co.'s No. 1 Schuler & Schuler, top sand 3,645 feet, initial production 38 bbls. per hour through open tubing, total depth 3,673 feet. The Texas Company's No. 1 A. S. Jarvis, top sand 3,611 feet, initial production 165 bbls. per hour through open tubing, total depth 3,622 feet. Tidal Oil Co.'s No. 1 F. W. Flanagan, top sand 3,637 feet, initial production 165 bbls. through tubing, total depth 3,692 feet. Tidal Oil Co.'s No. 1-B Maude Thompson, top sand 3,630 feet, initial production 165 bbls. per hour through open tubing, total depth 3,686 feet. Ward Oil Co.'s No. 5 E. B. Thrash, top sand 3,765 feet, initial production 50 bbls. per hour through 2-inch tubing, total depth 3,790 feet.

Smith County

H. L. Hunt's No. 7-A Fair, top sand 3,639 feet, initial production 95 bbls. in 30 minutes through tubing, total depth 3,682 feet. Sinclair Oil & Gas Co.'s No. 4-A Jarvis, top sand 3,663 feet, initial production 95 bbls. in 30 minutes through tubing, total depth 3,682 feet. Same company's No. 5-A Jarvis, top sand 3,668 feet, initial production 95 bbls. in 30 minutes through tubing, total depth 3,680 feet. Same company's No. 5-B Jarvis, top sand 3,667 feet, initial production 165 bbls. in 45 minutes through open tubing, total depth 3,679 feet. Same company's No. 7-B Jarvis, top sand 3,680 feet, initial production 165 bbls. in 55 minutes through open tubing, total depth 3,695 feet. Same company's No. 3-C Jarvis, top sand 3,680 feet, initial production 165 bbls. in 55 minutes through open tubing, total depth 3,695 feet. Same company's No. 4 Dora Wright, top sand 3,755 feet, initial production 165 bbls. in 50 minutes through open tubing, total depth 3,758 feet. Same company's No. 1 Ethyl Wright, top sand 3,686 feet, initial production 210 bbls. per hour through tubing, total depth 3,692 feet. Same company's No. 3 Mrs. R. G. Wright, top sand 3,674 feet, initial production 165 bbls. per hour through open tubing, total depth 3,674 feet. Same company's No. 5 R. G. Wright, top sand 3,694 feet, initial production 98 bbls. in 30 minutes through open tubing, total depth 3,706 feet. Sun Oil Co.'s No. 3 E. O. Henson, top sand 3,677 feet, initial production 250 bbls. per hour through open tubing, total depth 3,678 feet. Same company's No. 4 J. D. Henson, top sand 3,652 feet, initial production 50 bbls. per hour through open tubing, total depth 3,685 feet. Morrison and others No. 1 Ray, dry and abandoned, total depth 4,100 feet.

Upshur County

Cal-Pet Corp.'s No. 1 Dearing, top sand 3,667 feet, initial production 70 bbls. per hour through three-fourths-inch tubing choke, total depth 3,693 feet. Same corporation's No. 1 Taylor, top sand 3,717 feet, initial production 98 bbls. per hour through three-fourths-inch tubing choke, total depth 3,723 feet. Same corporation's No. 3 I. Walker, top sand 3,604 feet, initial production 97 bbls. per hour through three-fourths-inch tubing choke, total depth 3,654 feet. Cockrell and others' No. 1 C. A. Lee, location abandoned.

Humble Oil & Refining Co.'s No. 2 Smith, top sand 3,629 feet, initial production estimated 80 bbls. per hour through three-fourths-inch tubing choke, total depth 3,648 feet. Kochtitzky and others' No. 1 B. Victory, top sand 3,679 feet, initial production 10 bbls. per hour through seven-sixteenths-inch tubing choke, total depth 3,686 feet.

Magnolia Petroleum Co.'s No. 5 R. A. Adkins, top sand 3,730 feet, initial production 102 bbls. per hour through 1-inch tubing choke, total depth 3,733 feet. Same company's No. 3 O. F. Smith, top sand 3,614 feet, initial production 200 bbls. per hour through 1-inch tubing choke, total depth 3,632 feet. The Texas Company's No. 2 Phillips, location abandoned. W. W. Wheeler's No. 1 D. B. Webb, top sand 3,688 feet, initial production 54 bbls. per hour through 1-inch tubing choke, total depth 3,706 feet.

RUSSO-TURKISH CREW IN BAKU FIELD

Turk on left and Russian at right.

NORTH AND WEST TEXAS

(Continued from Page 27)

total depth 3,050 feet, plugged back to 2,810 feet, initial production 70 bbls. per day pumping, well was making 60 bbls. per day before deepening. Rixford and others' No. 1 Johnson, top pay 2,168 feet, initial production 50 bbls., total depth 2,204 feet.

Concho County

Betts & Dennis' No. 1 Woods, abandoned location.

Pecos County

McCurdy and others' No. 1 Tippett, top pay 1,316 feet, initial production 170 bbls., total depth 1,457 feet.

Oklahoma Allowable 544,000 Barrels

Oklahoma City Kept Down to 180,000 Bbls. per Day. With Situation Stabilized Leasing in Favorable Areas Revives

By W. A. Spinney
Staff Correspondent, Oklahoma Fields

The oil industry in Oklahoma entered the month of November with a wave of optimism after the crude oil prices were advanced 15 cents per barrel November 2, from the old prices of 46 to 70 cents to the new prices of 61 to 85 cents. The Continental Oil Co. announced the increased prices Saturday, which became effective Monday morning. The new prices bring considerable confidence to the producers which have been curtailing their oil production for several years. From a production standpoint the oil situation is considered well in hand and through the adoption of the Oil States oil compact production will be held at a level with demand for the remainder of the year. Oklahoma's new proration order issued Saturday limits the State's output to 544,000 bbls. a day, of which amount the Oklahoma City Field is permitted to produce 180,000 bbls. a day and the Greater Seminole area 155,000 bbls. a day. There was no change made in the stripper well production.

New potentials started November 1, in the Greater Seminole area. Potentials will start in the Oklahoma City Field November 5, and until that time the wells may produce 5.4 per cent of the estimated potential as fixed by the Corporation Commission. After that time only wells which have had potentials taken since October 10, will be permitted to produce.

The new order which was signed by the three commissioners came after a four-day hearing earlier in the week. The Corporation Commission did not rule on the petitions for zoning the pay horizons in the Oklahoma City Field, neither did they make any provision in regard to chokes, flow beans, oil-gas ratios, or other means of curbing the flow of oil, as had been suggested.

The daily order provides that no operator may produce more than one day's allowable at a time and no well shall be overproduced in any one day. Potentials were ordered on all wells to start November 5, and wells which do not have a potential gauge will be forced to shut in.

Wells which have produced their allowable during the first four days of August will not be charged with overproduction. Production during the military shut down from August 5 to October 10, will not be considered. Wells are given credit for only 22 days during the month of October.

180,000 Bbls. Per Day

The allowable production is fixed at 54 per cent of the potential on wells that are even with production. Underproduced wells will be permitted to take an additional one-half of 1 per cent of their production. This is intended to hold the field to 180,000 bbls. a day of which 18,000 bbls. a day will be from underproduced wells. The total underproduction is estimated at 3,711,000 bbls.

Because of the resignation of Field Umpire Bradford in the Oklahoma City Field a committee composed of W. N. Stokes, C. O. Rinson, and B. G. Patton are named to handle the affairs of the umpire's office.

Crude oil production in the State shows an increase of approximately 36,500 bbls. a day for the week ending October 31, from Oklahoma compared to the previous week's gauges. The daily average production for the same seven days was approximately 518,600 bbls. a day.

Potential Tests in Seminole

New potentials were ordered in the Greater Seminole area, commencing November 1. The rules and regulations under which the potentials will be taken on all leases in the Greater Seminole area are as follows: In the Allen and Sasakwa Pool, from November 1 to 10, inclusive; old Earlsboro and Earlsboro Townsite, November 2 to 11; St. Louis Pool, with the exception of the Shell Petroleum Corp.'s Smith lease which will be taken November 15 to 24, will be on November 3 to 12; Seminole and East Seminole on November 4 to 13; West Asher and Konawa and the following leases in Carr City Pool, Gypsy Oil Co.'s L. Coker, Carter Oil Co.'s Rogers and Prairie Oil & Gas Co.'s Hyde, and the following leases in the South Earlsboro Pool, Amerada Petroleum Corp.'s Grounds, Gypsy Oil Co.'s Halbutta, Magnolia Petroleum Co.'s Carbitcher and Grounds, and Prairie Oil & Gas Co.'s Grounds, November 5 to 14.

In the East Earlsboro, Mission and the following leases in the South Earlsboro Pool, Amerada Petroleum Corp.'s Edwards, Eason Oil Co.'s Anderson, Stanolind Oil & Gas Co.'s Lena and Sinclair Oil & Gas Co.'s Jones from November 15 to 24.

The Little River and East Little River Pools, from November 16 to 25. Bowlegs and Searight Pools, from November 17 to 26. Carr City and Maud Pools, from November 18 to 27.

It had been alleged by the Oklahoma City operators and others that former potentials as taken in the Greater Seminole area were fictitious and unreasonable, resulting in the Greater Seminole area producing its wells to nearly full capacity of their production. This matter was brought to the attention of the statewide proration committee at which time the Oklahoma City operators were invited to have representatives witness the taking of all gauges in the Greater Seminole area.

Checking Seminole Gauges

After a conference with the Oklahoma City operators it was arranged that their men be appointed as representatives for the purpose of witnessing the gauges in the Greater Seminole area. In addition to the rules and regulations heretofore used in witnessing the gauges, further rules and regulations are as follows: J. E. Flynn and R. T. Conwell are to be in charge and have supervision of the taking of gauges. They will appoint chief district gaugers and the pumpers for the different districts. It shall be the duty of the gaugers to witness the gauging of the stocks of crude oil on hand on the dates when the leases are open to full production and on the expiration dates. The gaugers shall witness daily the taking of gauges on all leases and report the estimated daily production to J. E. Flynn and R. T. Conwell.

Attention of the lease foremen is directed to order that the opening of the wells to full production on the dates as otulined in the schedule must be witnessed by an authorized agent of the state umpire. For the purpose of witnessing the taking of gauges and estimating the daily production, the witness gauger will be on the lease daily at the same hour as when the wells were opened to full production until the expiration date of taking potentials.

The purchasing companies are requested to furnish the umpire with pipe line shipments showing actual shipments by leases and companies for the period as shown in the schedule.

The gaugers are requested to take gauges on any or all steel storage and investigate transportation system.

Seven New Locations

During the week ending October 31, seven new locations were announced in the Oklahoma City Field. Several wells were given a potential rating and one of the new wells was rated at 96,540 bbls. of oil in 24 hours, making it one of the largest wells completed in the field.

R. A. Wallace and others' No. 1 Dittmer, NE cor. Section 15-11-3w, on Block 7 of Carney Heights Addition, is a location. The city has granted permits to H. H. Patton and others' for a well in the 100 block on Southwest Twenty-third street. The location is in the NE cor. SE, Section 9-11-3w, on the extreme west side of the field. Another permit was granted P. P. Gibbons and others' for a test in the 600 block on East Reno Avenue. The location is in the SW cor. SE, Section 34-12-3w. Anderson and Kerr and Continental Oil Co.'s No. 1 St. Louis, NE cor. NW SW SE, Section 34-12-3w, on Block 1 of Second Riverside addition. T. B. Slick Oil Co. has staked locations for Nos. 3, 4, 5, on the Terminal lease, No. 3 Terminal, SW cor. SE NW, No. 4 Terminal N half SE SW NW, No. 5 Terminal, NE cor. SW SW NW, all in Section 3-11-3w.

Another large well was completed in the Oklahoma City Field, in the extreme north end. Westgate Oil Co.'s No. 3 Carey, SW cor, SE NW SE, Section 34-12-3w, on Block 3 of the Phillips-Meads Addition, made 16,090 bbls. in 4 hours. The gas was estimated at 40,000,000 feet a day. It is producing through 9-inch casing from the Wilcox sand at 6,315-6,531 feet. The well was given a potential of 96,540 bbls. in 24 hours.

Potentials of New Wells

The field umpire has completed potentials on a group of new wells in the Oklahoma City Field under the direction of the miiltary officials. The daily potentials were as follows:

Company and wells—	Bbls.
Morgan Petroleum Co.'s No. 1 Bisbee	31,861
Eason Oil Co.'s No. 1 Rodesney	31,797
Skelly Oil Co.'s No. 1 Gibson	40,030
Skelly Oil Co.'s No. 2 Hoopes	4,493
Danciger Oil Co.'s No. 1 Burroughs	31,940
Slick Oil Co.'s No. 2 Terminal	44,256
Slick Oil Co.'s No. 2 Classen-Edwards	34,126
Slick Oil Co.'s No. 3 Classen-Edwards	49,357
I. T. I. O.'s No. 1 M. K. T.	59,144
I. T. I. O.'s No. 1 H. W. Jones	3,804
I. T. I. O.'s No. 2 Ivanhoe	1,167
I. T. I. O.'s No. 1 Pasadena	1,242
I. T. I. O.'s No. 2 Terrace Lawn	41,124
Phillips Pet. Co.'s No. 1 Egermier	29,124
Phillips Pet. Co.'s No. 1 Reserve	57,081
Phillips Pet. Co.'s No. 1 Hare	56,231
Phillips Pet. Co.'s No. 2 Highland	31,379
Sinclair Oil & Gas Co.'s No. 10 Vincl	3,732
American O. & R. Co.'s No. 1 Park	40,478
Great Southern Oil Co.'s No. 1 Bucher	17,824
McArthur and others' No. 1 Kammerdeiner	37,405
Payne-Johnson's No. 1 Levi	32,568
Wilcox Oil & Gas Co.'s No. 1 Grimes	37,386
Mid-Texas' No. 1 Floral Hills	10,057
Champlin's No. 1 Central	2,662
Champlin's No. 1 Seal	1,784
Stauffer's No. 1 Jones	53,904
Champlin's No. 4 Central	18,370
Champlin's No. 1 Shillings	21,229
Springrose's No. 1 O'Connor	39,060
I. T. I. O.'s No. 1 Stevens-Cory	2,649

In southern Oklahoma four scattered drilling tets were under way in Stephens County, two of these were wildcats. Murray Petroleum Corp.'s No. 1 Wilkerson, SE cor. NE SE, Section 8-1s-5w, was drilling at 1,105 feet. It will be drilled to the deep horizon.

W. H. Smith and others' No. 1 Ridgeway, NW cor. NE SE, Section 17-3s-4w, was spudding below 200 feet. It is a wildcat test located about 2 miles south and 2 miles east of the townsite of Loco.

H. J. Brown and the K. D. Oil Co.'s No. 2 Hightower, SW cor. SE SE, Section 15-3s-5w, was drilling at 500 feet.

(Continued on Page 75)

WILDCAT OPERATIONS IN OKLAHOMA

NORTHERN OKLAHOMA

ALFALFA COUNTY

Company, farm and location—	Remarks:
Smith Brothers' No. 1 Forbes, SE cor. NW NW, Sec. 12-27-11w	S.D. 1,232 ft.
J. W. Bailey's No. 1 Acre, SW cor. NE Sec. 14-24-11w	S.D. 5,502 ft.

ATOKA COUNTY

Campbell's No. 1 Baird, NW NE SW Sec. 31-1-13	Rig.
Edgerton Edwards' No. 2 Rowland, SE NE NW Sec. 6-1-15	Rig.

BECKHAM COUNTY

Price-McFann's No. 1 Webster, C SW SW Sec. 34-8-26w	T.D. 2,344 ft; plugged back to 1,890-1,900 ft; 1,500,000 ft. gas.
Mid-Continent's No. 1 Schaff, C NE SW Sec. 22-11-22w	Waiting on cmt. to set 430 ft.
Mid-Texas Co.'s No. 1 Sidell, NE cor. SW SW Sec. 17-2-22w	S.D. 2,550 ft.
White et al's No. 1 Green, SW cor. Sec. 34-10-24w	S.D. 2,575 ft.

BLAINE COUNTY

Washoma Oil Co. et al's No. 1 Phillips, C NW SW Sec. 13-19-10w	S.D. 5,115 ft.

CADDO COUNTY

Abernathy & Brown's No. 2 Houston, Sec. 24-6-13w	S.D. 1,115 ft.

CHEROKEE COUNTY

La Piere et al's No. 1 Woods, C SE SE Sec. 27-17-21	Drlg. 1,185 ft.

COAL COUNTY

Radial Oil Co.'s No. 1 McCraw, NE NW Sec. 2-1s-8	Drlg. 1,050 ft.
McCraw Oil Co.'s No. 1 Ward, NE SE Sec. 35-1-8	Drlg. plug; showing 2,000,000 ft gas 1,765-1,846 ft; mudded off gas; S.D.
Whitney et al's No. 1 Miller, SE NE Sec. 10-2-8	S.D. 760 ft.

COMANCHE COUNTY

G. W. Stogner's No. 1 Doebel, C SW SW Sec. 3-3-5w	S.D. 1,450 ft.

LE FLORE COUNTY

H. E. Dowd et al's No. 1 Unknown, SE NE Sec. 17-3-22	Fishing 1,112 ft.

GARFIELD COUNTY

E. L. Love et al's No. 1 White, SE cor. NW Sec. 9-24-6w	S.D. 5,850 ft.

GARVIN COUNTY

Malarnee et al's No. 1 Phillips, NE SW SE Sec. 24-2-2w	S.D. 4,830 ft.

GREER COUNTY

Dovell et al's No. 1 Capell, NW cor. Sec. 1-7-22w	5,000,000 ft. gas 1,455-65 ft; T.D. 1,760 ft.
French's No. 1 Murphy, SW NW Sec. 23-7-21w	S.D. 1,645 ft.

HARPER COUNTY

Sinclair O. & G. Co.'s No. 1 Howell, C SW SW, Sec. 14-26-24w	20,000,000 ft. gas 5,350-5,400 ft; T.D. 5,539 ft; S.D; sprayed 50 bbls. gasoline.

HASKELL COUNTY

Ault et al's No. Harrison, CWL SE NE, Sec. 14-9-19	S.D. 650 ft.
Ault et al's No. 1 Hall, NW SW SW, Sec. 14-9-19	S.D. 2,000 ft.
Ault et al's No. 1 Hall, SE NW, Sec. 25-19-9	S.D. 200 ft.

(Continued on Page 72)

Test in Barton County Looks Good

Hilligoss and Others' Wildcat Flows 60 Bbls. an Hour. Ritz-Canton Field Extended Northeasterly. Allowables Increased

By W. A. Spinney
Staff Correspondent, Kansas Fields

Crude oil production in Kansas during the week ending October 31 averaged approximately 102,800 bbls. a day an increase of 855 bbls. a day over the previous week.

Hilligoss and others No. 1 Isern, SW cor. SE NE, Section 12-20-11w, Barton County, a wildcat, swabbed 60 bbls. of oil an hour after having been drilled a few feet deeper. The oil was found in the Silicious lime at 3,313-17 feet. The well is located about 3½ miles northwest of the Schurr Pool, in Rice County. It may be drilled deeper later in the week. The Derby Oil Co. has purchased the 40-acre south offset lease to the well from Hilligoss and others. It was the first acreage transaction in the area.

Another test found oil in the chat and extended production in the Ritz-Canton area during the week. T. C. Johnson and J. H. Miller's No. 1 McGill, SE cor. NW, Section 20-19-1w, is estimated to be a 150-bbl. well in the chat at 2,947-95 feet. It is located on the northeast side of the field, and will require three offsets, two by the Darby Petroleum Corp. and one by the Sinclair Oil & Gas Co.

In the south end of the Ritz-Canton Field Foraker and others' No. 1 Tinsley, NW cor. SW, Section 6-20-1w, found a small showing of oil in the Viola lime at 3,451 feet, and a showing of water at 3,496 feet.

Increases Allowables

The Kansas Public Service Commission, following a meeting held in Wichita October 28, announced an increase in the allowable production for the Schurr Pool, in Rice County and also granted an increase in the allowable production in the Ritz-Canton Pool, in McPherson County. The Commission denied application of the Abilene Oil Co. to increase its production in the Ritz-Canton Field, to make up a previous deficiency or voluntary shortage in allowable takings.

Production from the Schurr Pool, under the new order, effective November 1, was placed at 1,658 bbls. a day, which is 20 per cent of the field's potential production of 8,291 bbls. a day. The new allowable represents an increase of approximately 558 bbls. a day. The previous order, which was in effect from October 1 to November 1, allowed each well in the Schurr Pool, to produce 100 bbls. a day.

The Commission also ordered that the maximum allowable production for the Ritz-Canton Pool, in McPherson County, be placed at 17,500 bbls. a day. The chat production was placed at 5,500 bbls. a day and the Viola lime production placed at 12,000 bbls. a day. The increase is due to the completion of the Phillips Petroleum Co.'s new pipe line, which gives the field an additional outlet.

Western Gas Field

Drilling activity is expected to be resumed in the Hugoton gas field in Stevens, Morton, Grant and Haskell Counties about the first of the year, according to a survey of companies in the area.

The development of the large gas reserves has been delayed while connections are being made to the three interstate pipe lines which will carry the majority of the gas produced in the southwestern part of Kansas to north and northeast. It is expected that more than 100 new wells will be drilled in 1932, one estimate states. Others express the opinion that gas from the Hugoton Field will go to Duluth, Minn., and to the New England states by 1933.

The development of the Hugoton gas fiedl was so rapid in 1929 and 1930 that the farmers in the area that formerly grew wheat became more interested in the gas development than in the development of the soil.

At the present time there are approximately 116 wells in the field with an estimated open flow of 700,000,000 feet of gas a day. Locations for more than that amount have been staked. The Continental Construction Co. may loop their line to Chicago next year.

Recently the gas activity spread from Stevens and Morton Counties to Haskell County where the first well was completed making 14,000,000 feet of gas a day. Three other locations have been staked in the vicinity and it is expected these new tests will be drilling by another month.

The discovery well in Haskell County was completed by the Trees Oil Co. and others' and they will drill another test on a large block of acreage in the same county.

Geologists have estimated the gas reserves in that part of the State will last more than 100 years. More than 100 square miles of territory has been proved as prospective gas area and the field has not yet been defined. Acreage is held in large blocks and the development is expected to be orderly as the gas is needed for the market.

Leasing Cheyenne Bottoms

During the last month following an extensive seismograph survey of the Cheyenne Bottoms in Barton County, more than 75 per cent of the acreage in the area has been leased. The area is located about 8 or 10 miles north of the Hilligoss and others' new wildcat well in the southeastern part of the county, which was recently drilled to the Silicious lime and is showing for a good well. Companies with considerable acreage in the area include Amerada Petroleum Corp. and Atlantic Oil Producing Co. Most of the acreage in Township 18-11w, is under lease. The water in the Cheyenne Bottoms has evaporated and permitted the geologists to work in the area, the first time in several years.

The Continental Oil Co. is attempting to extend the production in the Goodrich Pool, Sedgwick County, and is starting two tests in the pool. These tests are believed to be the forerunner of a dozen or more wells that may be drilled on the company's 3,000 acres which now promises to be productive over a considerable area in the deep pay horizon. One of the new tests is No. 1 S. E. Black, SW cor. Section 9-25-1, a half mile north of the recently completed No. 1 Black, which extended the production a half mile at that time, by making 235 bbls. a day from the deep pay horizon. The other new test is No. 1 W. A. Casey, SW NW Section 15-25-1, and is located three-quarters of a mile east of the recently completed No. 1 Black, which was drilled deeper to the Simpson dolomite from the chat. Tools were being moved onto the locations and the drilling of these tests is expected to start in the near future. If these tests find commercial production it will prove considerable acreage in the 3,000-acre block.

Ellsworth Arch

Hilligoss and others' No. 1 Isern in Section 12-20-11w, in the southeastern part of Barton County, which found a hole full of oil in the Silicious lime, has again proved the importance of the Ellsworth Arch as a source from which large petroleum reserves can be taken. The importance of the area is becoming more apparent to the oil producers and others interested that this area will be the scene of considerable future development when conditions are normal. Indications are that all companies are today turning their attention to the area, which extends from Stafford County on the south, running across the eastern part of Barton County and the western part of Rice County and on north into Ellsworth County. It is estimated that 10 pools of undetermined extent have been found on the Ellsworth Arch in the last two years. All of these pools have been kept shut in and no development has taken place with the exception of the discovery wells.

These undeveloped areas are located in Ellsworth, Rice, Russell, Ellis, Barton, Stafford and Rush Counties. The discovery wells in these areas, particularly those on the Ellsworth Arch, where all of the large oil companies have considerable acreage, give promise of large future reserves. All of the available acreage is believed to be under lease.

When conditions in the oil industry become normal and pipe lines are laid to these areas the taking of oil will result in considerable new development. The recent opening of the Schurr Pool in Rice County, which was shut in for almost two years, and the opening of the Mid-West Exploration Co.'s No. 1 Richardson, the discovery well in Stafford County, which was also shut in for about two years, are indications that this area will soon be supplying crude oil to the markets.

The area covered by the Ellsworth Arch is a large subsurface structure covering parts of seven counties with a northwest-southeast trend. Nearly all of the discovery wells appear to be located on the flanks of this structure.

Some of the larger discovery wells include the Tatlock and others' No. 1 Ploog, in Section 33-18-9w, in Rice County; Slick, Pryor & Lockhart's No. 1 Heiken, in Section 25-17-10w, Ellsworth County; J. A. Aylward's No. 1 Startman, in Section 1-17-10w, Ellsworth County, and Gypsy Oil Co. and others' No. 1 Stoddenberg, in Section 22-16-10w, Ellsworth County; Cress and others' No. 1 Sharp, in Section 13-20-10w, Rice County; Mid-West Exploration Co.'s No. 1 Richardson, in Stafford County.

Geologists have been heard to express the opinion that some of these wells are located on structures that may extend from 15 to 18 miles in length while others believe that each well represents a separate and distinct pool. Considerable core drilling has been done along the area during the last three or four years and the majority of the discovery wells have been located on such information. Subsurface information from logs of wells completed in the area indicated that structures may be of considerable size. Oil companies have been using seismograph machines in the area and it is generally believed that the data was favorable to production of oil over wide areas.

In addition to the Ellsworth Arch it is believed there are other structures in Rush, Ellsworth, Rice, Ellis, Barton and Russell Counties which have been located by the core drills and the seismograph. Wells completed in the area range from 1,000 to 4,000 bbls. a day and the oil is of high gravity.

Fisher & Lauck's No. 9 Trustee, NE cor. SW SE Section 19-27-2, in Eastborough Pool, Sedgwick County, is spudding. The test will be drilled to the top of the Viola lime pay horizon and shut down. The owners state that they will not drill any more wells until conditions improve.

Ellis County

Davis & Hazlett and others' No. 2 Weiland, NW cor. NE NE, Section 1-13-16w, is an old well drilling deeper at 3,028 feet. No. 1 Weiland, NE cor.. Section 1-13-16w, has been completed for 165 bbls. in sand 3,037-43 feet, after drilling deeper.

Ellsworth County

Raymond Gear and others made location for No. 1 Sauberli, C SW SE, Section 29-16-9w.

Ford County

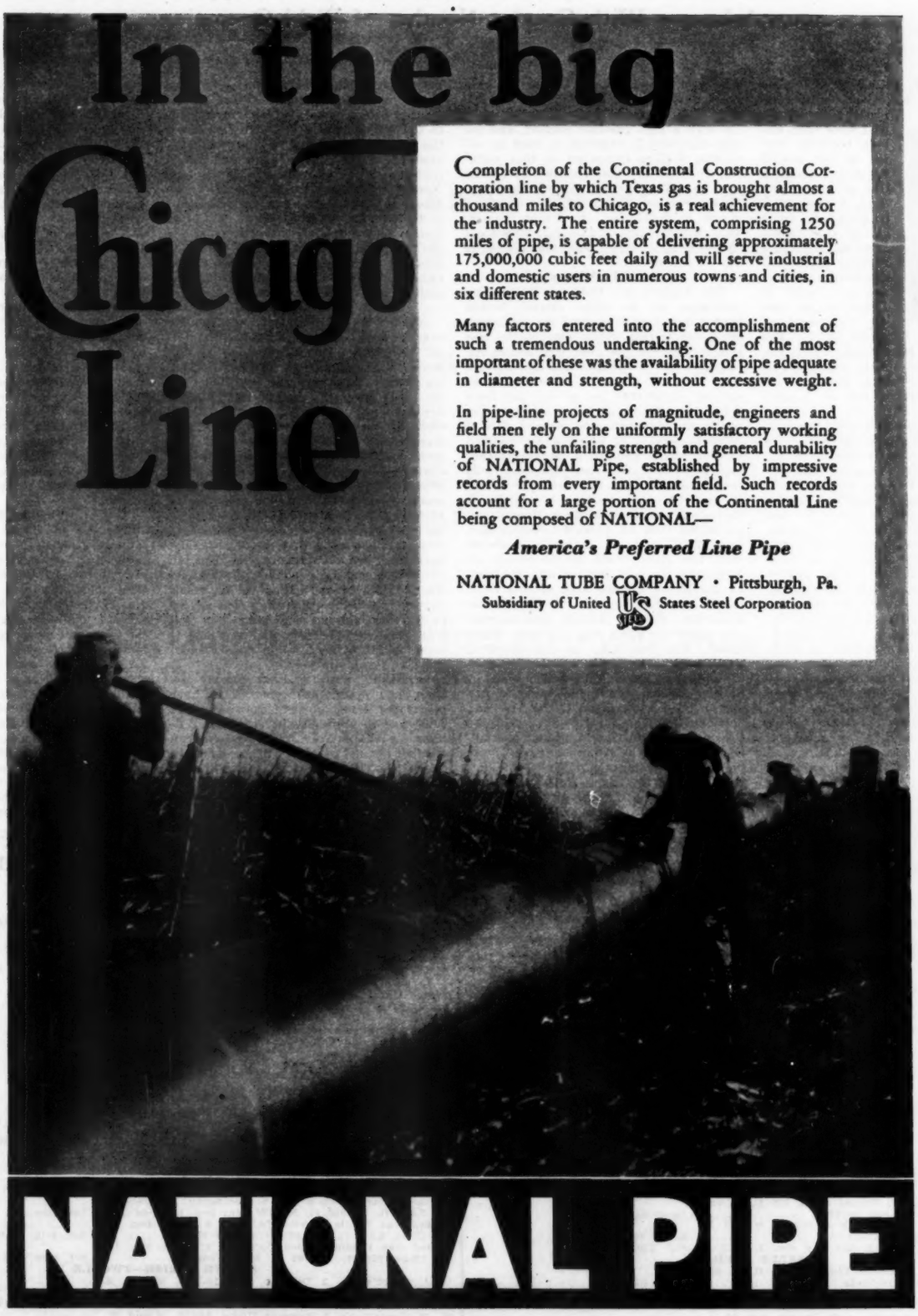
Carter Oil Co. and others' No. 1 Ever-

(Continued on Page 65)

WILDCAT OPERATIONS IN KANSAS

(Descriptions ...ked otherwise)

	Remarks:
BARTON COUNTY	
Syndicate Oil Co.'s No. 1 Boertz, NW SE SE, Sec. 13-18-12w	S.D. 3,449 ft.
Skelton Oil Co.'s No. 1 Ott, C SE SE, Sec. 16-19-14w	Drlg. 3,097 ft.
McCool et al's No. 1 Tsern, NW SE NE, Sec. 12-20-11w.	Show oil 3,313-14 ft.
CHASE COUNTY	
Borden et al's No. 1 Atkinson, NW SE, Sec. 18-18-7	Rig on ground.
CLAY COUNTY	
Crystal Oil et al's No. 1 Tivier, SW cor., Sec. 19-8-2	S.D. 2,700 ft.
COFFEY COUNTY	
Heyburg's No. 1 Kroft, SE SW SE, Sec. 20-22-14	S.D. 1,565 ft.
COWLEY COUNTY	
Slocum et al's No. 1 Union National Bank, C SW SW, Sec. 16-35-4	Drlg. 1,797 ft.
DICKINSON COUNTY	
Severs et al's No. 1 Lavengood, NE SW, Sec. 13-13-2	S.D. 4,546 ft.
ELLSWORTH COUNTY	
Keyes Bros.' No. 1 Gregory, SW cor., Sec. 23-16-9w	S.D. 3,610 ft.
Alyward et al's No. 1 Stratman, SE NW SE, Sec. 1-17-10w	Silicious 3,255-71 ft.; 117 bbls. 2 hrs.; shut in; estimated 2,000 bbls.; no pipe line connections.
Aladdin Pet.'s No. 1 Stoddenberg, C SW, Sec. 22-16-10w.	Silicious lime 3,332-47 ft; estimated 1,500 bbls. a day; shut in.
FINNEY COUNTY	
National Ref. Co.'s No. 1 Wells, C SW, Sec. 13-23-30w.	Underreaming 1,500 ft.
FORD COUNTY	
Carter Oil Co.'s No. 1 Everett, C NE, Sec. 22-29-21w	Drlg. 6,140 ft.
GRAHAM COUNTY	
Schleimeyer et al's No. 1 Clark, SW NE NE, Sec. 11-9-21w	S.D. 4,648 ft.
HARVEY COUNTY	
Liggett et al's No. 1 Davis, SW SE NE, Sec. 7-24-1	S.D. 1,505 ft.
J. P. Flannigan's No. 1 Sheridan, C SW, Sec. 32-22-1	Drlg. 3,653 ft.
KINGMAN COUNTY	
Skelly Oil Co.'s No. 1 Miles, NE cor., Sec. 30-27-10w	1,635-40 ft. 2,000,000 ft. gas; at 2,005-20 ft., 6,000,000 ft. gas; at 2,133-42 ft., 3,000,000 ft. gas; showing oil 3,325 ft; T.D. 3,441 ft; S.D.; estimated at 600 bbls. a day.
Panhandle Drlg. Co.'s No. 1 Wetherall, C SE NW SW, Sec. 20-28-10w	Rig.
MORTON COUNTY	
Hydraulic Oil Co.'s No. 1 State Land, NW SE, Sec. 22-34-43w	T.D. 3,640 ft; temp. abd.


In the big
Chicago
Line
Completion of the Continental Construction Corporation line by which Texas gas is brought almost a thousand miles to Chicago, is a real achievement for the industry. The entire system, comprising 1250 miles of pipe, is capable of delivering approximately 175,000,000 cubic feet daily and will serve industrial and domestic users in numerous towns and cities, in six different states.
Many factors entered into the accomplishment of such a tremendous undertaking. One of the most important of these was the availability of pipe adequate in diameter and strength, without excessive weight.
In pipe-line projects of magnitude, engineers and field men rely on the uniformly satisfactory working qualities, the unfailing strength and general durability of NATIONAL Pipe, established by impressive records from every important field. Such records account for a large portion of the Continental Line being composed of NATIONAL—
America's Preferred Line Pipe
NATIONAL TUBE COMPANY · Pittsburgh, Pa.
Subsidiary of United States Steel Corporation
NATIONAL PIPE

More Activity In Southeastern Area

Increase in Completions in Louisiana, Mississippi and Arkansas With Greater Number of Field Operations

By J. R. Crumpton
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Nov. 2.—This division reported more successful completions during the past week than has been recorded during a like period for several months. Out of 11 completions, 5 were fairly good oil wells from the Zwolle Field of Sabine Parish, the field reporting only one dry hole which is a high average from the chalk rock of that area. The Jackson Field of Mississippi, which has been very consistent of late, reported two gas wells, both of which were on the east bank of Pearl River in Rankin County.

All of the Zwolle producers were in proven territory, but two of them were outside wells of recently developed extensions. The Crescent Drilling Co.'s No. 1 Byrd, in the NW cor., Section 12-7-11, extended the eastern pool one-quarter mile south. The well is good for 500 bbls. daily from a total depth of 2,494 feet. The western wing of the field was extended one-quarter mile further west with the completion of W. M. Coates' No. 2 Hale, Section 1-7-13, flowing by heads 50 bbls. daily from 2,392 feet. The same operator completed his No. 1-B Sabine Lumber Co., Section 1-7-12, midway of the field, pumping 500 bbls. of fluid, 50 per cent of which is salt water, from 2,306 feet. This well first came in several weeks ago flowing 500 bbls. of pure pipe line oil daily before going dead. Lanier & Dyer completed their No. 1 Barthold, Section 35-8-12, as a 10-bbl. pumper from 2,531 feet.

The Langbridge Oil Co.'s wildcat, No. 1 Stephens, Section 17-9-11, between the Zwolle and Pleasant Hills Fields to the north, was officially completed during the week flowing from 40 to 50 bbls. daily through 2-inch tubing from 3,369 feet. The oil from the well is 39 gravity with a high gasoline content, and the new discovery is expected to start an extensive drilling campaign in that vicinity. The only dry hole recorded by Zwolle was H. W. Perritts' No. 5 Bowman-Hicks, Section 2-7-12, which was abandoned at 2,437 feet. In Union Parish, Dan Brooks' No. 1 Douglas, a wildcat in Section 9-22-2w, was abandoned as dry at 3,509 feet.

Activity in Mississippi

The Jackson gas field, in Mississippi, continues to be quite active, having turned in one or more good gas wells each week for several weeks. One of the best completions for the field was James Alexanders' No. 1 Wright Cast Stone, Section 13-5n-1e, which is estimated to be making 45,000,000 feet of dry gas from 2,423 feet. This well is an offset to the south of Meredith and others' No. 1 Allen in Section 12 which was completed several weeks ago as a 31,000,000-foot gasser from 2,375 feet. One-half mile west and north of the Alexander well, in the SW cor., Section 12, Willis & Culley's No. 1 Applewhite & Holden had an initial flow of 4,000,000 feet of gas from 2,387 feet. It is highly probable that the flow could be increased by deepening the hole further into the pay. In the Hinds County area of this field, the Hilgard Gas Co.'s No. 1 The Mississippi Co., Section 4-5n-1e, encountered salt water at 2,551 feet and was abandoned. The test may be considered a wildcat as it is about 2 miles west of the nearest production to the east in Section 2, and about 1½ miles southwest of the nearest gasser in the SW cor., Section 34-6n-1e.

No wildcat in this division has attracted as much attention recently as the Gulf Refining Co.'s No. 1-A Long Bell Lumber Co., Section 10-2n-16w, in Clarke County, Mississippi. Paleontological reports from the well gives the base of the chalk at 3,673 feet with 8 feet of sand from 3,692-3,700 feet. If this is the Selma chalk, which corresponds to the Annona chalk in North Louisiana, the core is from what is known in Mississippi as the Eutaw sand and which corresponds to the Blosson horizon in North Louisiana. In this district the Blossom sand produces in various fields, including Haynesville, Homer, Cotton Valley and Stephens, and gas from the Bethany, Elm Grove and other fields. At this writing, operators on the Clarke County test are drilling plug from 6⅝-inch casing, set at 3,675 feet.

Wildcat Operations

None of the other wildcat tests throughout the area developed anything of interest during the week, although several were testing at various depths. In Dallas County, Arkansas, the Zepp Oil Co.'s No. 2 Hillman, Section 20-10-13, bailed dry with no show of oil or gas at 2,628 feet. Six-inch casing was set at 2,620 feet. Since bailing, the hole has been cored to 2,656 feet but the cores revealed that the formation is still chalk rock. The Drillers Oil & Development Co.'s semiwildcat in Union County, No. 1 Pickering in Section 1-17-16, is arranging to test 5 feet of sand encountered from 2,129-34 feet. In Columbia County, near the town of Magnolia, the Kendall Oil Co. is making a shallow test on its No. 1 Fullenweider, Rhea & Kitchens, Section 13-17-22. Eight-inch casing set at 800 feet did not hold when the well was bailed at 814 feet, and the hole is standing full of fresh water with a small show of dead oil.

In Shelby County, East Texas, McRoby and others are reported to have penetrated 4 feet of sand showing oil at 2,608 feet in their No. 1 Windham, William Leach Survey. It is not known whether or not a test will be made in this sand. The wildcat is in the Shelbyville area, 7 miles southeast of Center, and is one of two wildcats active in that vicinity that will practically prove or disprove the belief of many operators that a field is located there. The other test in that locality is the United North & South Production Co.'s No. 1 Windham, H. English Survey, which is only a few hundred yards from the Sloane-Tokio Oil Co.'s test on the same tract, and which produced a good oil show and enough gas to fire the boilers before it was junked.

A resume of drilling activities in this division for October shows a gradual incline to normal operations. North Louisiana completed 21 wells during the past month in comparison with 13 the month before, and Mississippi showed a ratio of 8 completions for October to 1 for the previous month. Arkansas showed only two completions for the month, but these were important in that they further strengthened the potential producing area of the northern extension of the Urbana Field. The active drilling rigs in all of the districts have increased with the exception of the border counties of East Texas where operators have obtained only barren results in the numerous wildcats drilled in those counties so far.

Drilling for Gas

The Union Parish gas area of the Monroe Field of North Louisiana is experiencing several drilling operations after being off the active list for some time. The Interstate Natural Gas Co.'s No. 27 fee-Howard, Section 32-2-3e, has set subsurface casing at 796 feet, and the Nemours Corp. is drilling at 1,527 feet on its No. 1-C Harrell, in Section 7-20-4e. In the same parish, the Stovall Gas Co. is drilling at 985 feet on its No. 2 Howard, in Section 32-20-3e. In Bienville Parish, the Arcadia Drilling Co. has started another wildcat test, the third in this locality. The latest test is No. 1 Mason, in Section 28-18-6. Other drilling operations in North Louisiana follow: LaSalle Parish, Gulf Refining Co.'s No. 1 Tremont Lumber Co., Section 10-

(Continued on Page 65)

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Rotary operations unless otherwise designated)

NORTH LOUISIANA

BIENVILLE PARISH

Company, farm and location— Remarks:
Arcadia Drlg. Co.'s No. 1 Mason, Sec. 28-18-6, 1,200 ft. W, 190 ft. N, SE cor. NE NW ..... Drlg. 500 ft.

BOSSIER PARISH

Andrews & Davlin's No. 1 Nattin, 100 ft. N, 250 ft. W, C, Sec. 15-22-14 ..... S.D. 2,890 ft.
Dr. W. N. Hankin's No. 1 Newell, 300 ft. S and W, NE cor., Sec. 13-19-11 ..... S.D. 1,531 ft.
D. L. Perkins' No. 1 Ardis & Co., 1,127 ft. N, 198 ft. E, SW cor., Sec. 13-15-11 ..... S.D. 1,004 ft.

CALDWELL PARISH

Carter Bell's No. 1 Taylor, 150 ft. S, 150 ft. E, NW cor. NE SE, Sec. 17-14-4 ..... Set 12-in. csg. 110 ft.
Hudson et al's No. 1 Burton, Sec. 25-12-3e ..... S.D. 2,950 ft.

CATAHOULA PARISH

National Drlg. Co.'s No. 1 Marsh McMiller, 70 ft. N, 100 ft. W, C, Sec. 26-9-6 ..... T.A. 3,097 ft.

DE SOTO PARISH

Keatchie O. & G. Co.'s No. 1 Hallie Smith (was H. E. Weichert's), NE SE, Sec. 31-14-15 ..... S.D. 2,350 ft.
Ben Merritt, tr.'s No. 1 Walluma, NE cor. SW SW, Sec. 19-13-12 ..... S.D. 2,820 ft.
E. T. Oakes' No. 1 R. H. Bryant et al, 200 ft. N and W, SE cor. NE NW, Sec. 30-13-15 ..... Reaming 3,001 ft.
Rellitt Oil Co.'s No. 1 Ganno hrs., 300 ft. S and E, NW cor. NW NE, Sec. 13-11-16 ..... S.D. 1,965 ft.
Walters-Nicholson, tr.'s No. 1 Jim Guy, Sec. 3-11-13 .... S.D. 1,266 ft.

LA SALLE PARISH

Gulf Ref. Co.'s No. 1 Tremont Lbr. Co., 668 ft. N, 632 ft. E, SW cor., Sec. 10-9n-2e ..... Drlg. 4,311 ft.

NATCHITOCHES PARISH

Cooper et al's No. 2-A Cooper, C SE SE, Sec. 32-11-10 .. S.D. 1,518 ft.
Mid-West Prod. Co., Inc.'s No. 1 H. Brown, Sec. 34-11-10, 200 ft. W, 330 ft. S, NE cor. SE ..... Rigging up.
C. M. Talley et al's No. 1 C. M. Talley, 1,980 ft. W, 660 ft. S, NE cor. SE, Sec. 29-11-10 ..... S.D. 1,380 ft.

OUACHITA PARISH

Wilson & Mitchell's No. 1 Williams, Sec. 5-16-1e, 330 ft. E, 240 ft. S, NW cor. SW SE ..... Derrick.

RED RIVER PARISH

La. Oil Dev. Co.'s No. 2 La. Delta Pecan Co., 2,950 ft. S, 300 ft. E, NW cor., Sec. 27-13-11 ..... Spudded in; S.D. 50 ft.

(Continued on Page 66)

LOUISIANA-ARKANSAS PROVEN AREAS

NORTH LOUISIANA

CADDO PARISH—PINE ISLAND

Company, farm and location— Remarks:
Shreveport Oil Corp.'s No. 2-B Muslow, 1,000 ft. S, 300 ft. E, NW cor., Sec. 32-21-15 ..... S.D. 2,135 ft.
Simplex Oil Co.'s No. 1 Youree-Glassell, 500 ft. N and E, C, Sec. 13-20-15 ..... Tested S.W; S.O. 2,275 ft.

CADDO PARISH—RHODESSA AREA

United Gas Public Service Co.'s No. 1 H. J. Bussa, Sec. 33-23-16, 990 ft. W and 660 ft. S of NE cor. ..... Drlg. 4,250 ft.

MOREHOUSE PARISH

Bahan & Bahan's No. 4 Feazel, 900 ft. W, 300 ft. S, NE cor., Sec. 2-20-4 ..... Location.

OUACHITA PARISH

Carbon Consolidated's No. 7 Guthrie, Sec. 50-20n-4e, 5,263 ft. N and 7,475 ft. W of cors. of Secs. 25, 26 and 49, in Sec. 50 ..... Location.

RICHLAND PARISH

Pelican Nat. Gas Co.'s No. 1 Alexander, Sec. 4-16-6, 660 ft. N and W, SE cor. Sec. ..... Set 8-in. 752 ft.
Southern Carbon Co.'s No. 1 Pollard, Sec. 26-16-5e, 2,710 ft. S and 563 ft. W of NE cor. ..... Set 6-in. 2,285 ft.
Southern Carbon Co.'s No. 6 Rosengraut & Ducomb, 2,640 ft. E, 1,980 ft. N, SW cor., Sec. 19-17-6 ..... Location.
Southern Carbon Co.'s No. 7 Rosengraut & Ducomb, Sec. 24-17-5e, 696 ft. W and 660 ft. S, NE cor. .... Drlg. 2,385 ft.
Southern Carbon Co.'s No. 8 Rosengraut & Ducomb, 2,546 ft. E, 660 ft. N, SW cor., Sec. 18-17-6e ..... Location.
United Gas Public Service Co.'s No. 5 Earle, Sec. 25-17-5e, 1,980 ft. E, 1,320 ft. S, NW cor. ..... Set. 6-in. 2,300 ft.
United Gas Public Service Co.'s No. 1 Faust, Sec. 13-17-5e, 320 ft. W, 600 ft. N, SE cor. ..... Set. 6-in. 2,300 ft.

SABINE PARISH—ZWOLLE

O. J. Baird's No. 1 Duggan, Sec. 14-7-11, 328 ft. S, 648 ft. E, from center of Sec. ..... Set 10-in. 100 ft; drlg. 350 ft.
Roy Baker's No. 1 Sabine Lbr. Co., Sec. 1-7-12 ..... W.O.S.R. 2,548 ft.
W. M. Coates' No. 1 Bowman-Hicks, 330 ft. S and W, of C, Sec. 2-7-12 ..... W.O.S.R. 2,441 ft.
W. M. Coates' No. 1-B Sabine Lbr. Co., 150 ft. N and E, SW cor. NW NW, Sec. 1-7-12 ..... Completed 500 bbls., 50% S.W. 2,306 ft.
W. M. Coates' No. 2 Hale, 330 ft. S and E, NW cor. SW NE, Sec. 1-7-13 ..... Completed for 50 bbls., 2,392 ft.
Crescent Drilling Co.'s No. 1 Byrd, Sec. 12-7-11 ..... Completed for 500 bbls., 2,494 ft.
Dengall O. & G. Co.'s No. 3 Nulton, 330 ft. N and E, SW cor. NW NE, Sec. 1-7-13 ..... Set 10-in. 103 ft.

(Continued on Page 66)

Let's not talk about the "by-products" of cracking Let's call them "products" and sell them

There aren't any by-products of Dubbs cracking

Dubbs cracked gasoline is the best kind of gasoline, of course—it brings a premium

Dubbs cracked fuel oil—you wouldn't call that a by-product It's better than the original stock—lower viscosity, more heat units per barrel—more uniform

Dubbs coke is an excellent fuel for a number of uses

Cracked gases are also salable

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

Manvel Well Deepened Again Produces

Good Wells in New Play at Barbers Hill, Also at East Hackberry. Second Completion at Bayou Choctaw Dome

By Neil Williams
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., Nov. 2.—Deepening of the Manvel discovery well for its third completion as a producer, the bringing in of additional good wells in the new drilling play at Barbers Hill and also at East Hackberry and the completion of a second, but small, well on the Bayou Choctaw Dome sums up the more important developments on the Gulf Coast the past week. Prospects of additional new production are seen, however, in preparations being made to test showings in a number of scattered wildcats and semi-wildcats over the coast.

At Manvel, Brazoria County, The Texas Company's No. 1 Belcher, the discovery well, was placed back on production with the hole deepened 10 feet to a total depth of 5,494 feet. This well, located 157 feet from the northwest line and 223 feet from the southwest line of Lot 18, Block A, Suburban Gardens Subdivision, originally was brought in September 9 at a total depth of 5,481 feet. At that time it flowed initially at the rate of 2,000 bbls. daily and maintained a steady flow of around 1,600 bbls. for a week but after that production dropped off rapidly to almost nothing. In going into the hole, operators found screen 20 feet off bottom and after cleaning out and deepening the hole 3 feet to 5,484 feet screen was reset and the well brought back in flowing 60 bbls. hourly. Gas pressure, however, increased rapidly and soon cut oil production to almost nothing and the well was killed and deepened.

On the latest completion, 22 feet of 4¾-inch screen was set at the total depth of 5,494 feet. The well flowed 12½ bbls. of pipe line oil in the first 30 minutes with 100 pounds pressure on the 9⅝-inch casing and 1,200 pounds pressure on the 4¾-inch liner. In the first 18-hour gauge the well flowed 911 bbls. through a seven-sixteenths-inch choke and on the latest 24-hour gauge flowed 955 bbls. through a seventeen-thirty-seconds-inch choke, 900 pounds pressure on liner and 255 pounds on casing.

Barbers Hill

What is looked upon as the best well from a pressure standpoint ever completed at Barbers Hill was brought in late in the week by Mills Bennett Production Co. in its No. 3 Fisher on the southeast flank. At a total depth of 5,056 feet and taking in approximately 100 feet of sand, this well came in flowing 2,200 bbls. daily with 690 pounds pressure through a half and a three-eighths-inch choke. Production, however, is increasing. This well was completed last January in sand at 4,374-4,437 feet flowing 1,300 bbls. daily and only lately has been deepened to the lower sand.

Sun Oil Co.'s No. 11 Wilburn, located on the east flank, has turned out a fair well in a shallow Miocene lense with bottom of the hole at 2,610 feet. The well, with 22 feet of 6¾-inch screen in the hole, came in early in the week flowing by heads at the rate of 200 bbls. daily but increased to 400 bbls. The well was started to drill to the recently opened 4,400-4,500-foot sand on the east flank but on encountering the lense was completed in it. It is located 550 feet in toward the dome from the nearest production. No. 12 Wilburn, located 75 feet still farther in, already is drilling. Salt in No. 11 was penetrated at 1,678-2,161 feet.

Drilling continues active in the new 4,400-4,500-foot sand development on the east flank. Two additional tests were started up during the week, these being Mills Bennett Production Co.'s No. 6 Wilburn, 125 feet west of No. 5, completed early in the week as an 1,800-bbl. well, and Gulf Production Co.'s No. 6 Wilburn, a northward offset to Mills Bennett's No. 5. Fourteen rigs now are running at Barbers Hill, which is the only active field, outside of a little new development at East Hackberry, on the Gulf Coast.

East Hackberry

At East Hackberry, two additional completions have been reported, the better of which is J. G. Sutton's No. 2 Irwin. This well came in flowing 3,000 bbls. daily through one-quarter and one-half-inch chokes with one joint of 4½-inch screen set at 2,972 feet. Calcasieu Oil Co.'s No. 27 Watkins, same area, flowed at the rate of 1,000 bbls. daily through a three-quarter-inch choke, with one joint of screen at 2,983 feet. The wells are in the new north extension pool some 2,000 feet to the north of the deeper flank sand production.

Iberville Parish

Standard Oil Co. has completed its No. 1 Myrtle Grove-Wilbert, Bayou Choctaw Dome, Iberville Parish, Louisiana, flowing initially at the rate of 75 bbls. daily, but which since has shown some increase. This is the second well on the dome but in a different sand from the discovery well. The latter, No. 1 Gay, 250 feet east of the Myrtle Grove well, is in sand at 4,353 feet and came in estimated as good for 3,000 bbls. daily. Although only 250 feet from the Gay discovery well, No. 1 Myrtle Grove went into salt from 2,566-2,712 feet and was plugged back to 2,535 feet. A total of 122 feet of 4-inch screen was set, sealed to the 7-inch casing set at 2,405 feet. The well has no tubing in the hole and is flowing through the 7-inch casing.

Mykawa

Of some interest is Humble Oil & Refining Co.'s No. 2 Irvin, at Mykawa, torsion balance prospect southeast of Houston, which has been trying to blow out from a sand at 6,305 feet. This well has been deepened from a sand at 4,189 feet where it was completed in August, 1929, as a 50,000,000-foot gas well. Although several wells have been completed on this prospect so far there has been no large production.

Moss Bluff

Another failure has been marked up for Moss Bluff, southern Liberty County, with the abandonment of Humble Oil & Refining Co.'s No. 8 Sterling as dry at 6,054 feet. Three commercially productive wells, all on the east flank of the dome, have been completed at Moss Bluff but for the most part development has been more or less unsuccessful. As many as 20 deep tests, exclusive of numerous shallow tests on top, have been drilled on various sectors of the dome. No. 8 Sterling is located to the south and west of the discovery well, No. 6 Sterling, which found production in sand at 5,666 feet.

Cedar Bayou

J. P. Hunnicutt's No. 1 Haney, deep test in the Cedar Bayou district of eastern Harris County, also was dry and at 5,872 feet has been abandoned. This is the fifth deep test drilled in this area. The other four were drilled by Sloan Prospecting Co., on the strength of a possible salt dome there indicated by torsion balance survey.

Late in the week Sun Oil Co. was swabbing its No. 25 Bender, northwest flank of Humble to test sand at 2,850 feet. Five joints of 4½-inch screen were set at that depth after the hole had been plugged from a total depth of 3,298 feet. This well is in wildcat territory about midway between production on the extreme west and extreme northwest flanks, and a quarter to half mile out from the old shallow sand production.

Yount Lee Oil Co. has cemented 7-inch casing at 7,740 feet in its No. 10 Houssierre-Latrielle, in the deep sand area southeast of the old Jennings (Evangeline) Field, Acadia Parish, Louisiana. Total depth of the hole is 7,791 feet where the test is in a hard sand showing oil. Three other producing wells have been completed in this immediate area from sand at 7,400-7,500 feet, the deepest producing sand on the Gulf Coast.

Humble Oil & Refining Co. has cemented at 1,270 feet a string of 9⅝-inch casing in its No. 6 Cockrell-Moran, Lake Grand Ecaille Dome, Plaquemines Parish, Louisiana, to test a showing in cap rock at a total depth of 1,322 feet. One well, No. 4 Cockrell-Moran, is producing on this dome, it also being in the shallow cap rock.

Iowa Dome

Vacuum Oil Co.'s No. 1 Waite, discovery well of the Iowa geophysical prospect, Calcasieu-Jefferson Davis Parish, completed October 22 in sand at 6,958-71 feet flowing initially at the rate of 1,500 bbls. daily on a three-eighths inch choke, has been flowing steadily between 600 and 700 bbls. daily on a quarter inch choke but is to be shut in with storage on hand about full. The well is estimated good for more than 3,000 bbls. daily. So far no new locations have been made although Shell Petroleum Corp. is due for two and possibly three direct offsets. Vacuum's No. 2 Cameron Meadows, discovery well of the Cameron Meadows prospect in southern Cameron Parish, also has been flowing around 600 bbls. daily through a quarter inch choke but has been shut in for storage.

Markham

Powers Production Co. is rigging up for No. 1 N. R. Myers, northeast flank of Markham, Matagorda County. This well is located 750 feet from the east line and 300 feet from the north line of Block 6, William Hadden Survey. In view of its location, 210 feet almost due north of S. Hamill and associates' No. 1 Myers, which opened a new sand on the northeast flank by its completion as a producer several months ago, it will be watched with interest. The Hamill well came in flowing 500 bbls. daily but now is making better than 1,500 bbls. of pipe line oil daily. Although Markham is one of the older fields of the coast this well is the first to indicate any important production. The Hamill well is in a 3,200-3,300-foot horizon, the deepest so far at Markham.

On the north side of Blue Ridge, Coronado Oil Co. (Doney & Means) is rigging up for its second test on the Blakely block acquired early in the year. The location is 500 feet north of No. 1, drilled by Doney & Means, in Lot 8, E. Drew Survey. This is comparatively new territory for development, No. 1 Blakely, having extended production to the north and east around the dome.

L. A. Layne and associates, who have been operating at Damon Mound, Brazoria County, have organized the Intercoastal Oil Co., capitalized at $300,000. Holdings of the new company include 840 acres in the Wisdom tract. Associated in the new company are John C. Townes, J. W. E. Stephens and Mr. Layne. One test, known as L. A. Layne and associates' No. 8 Wisdom, now is drilling.

GULF COAST FIELDS AND WILDCATS

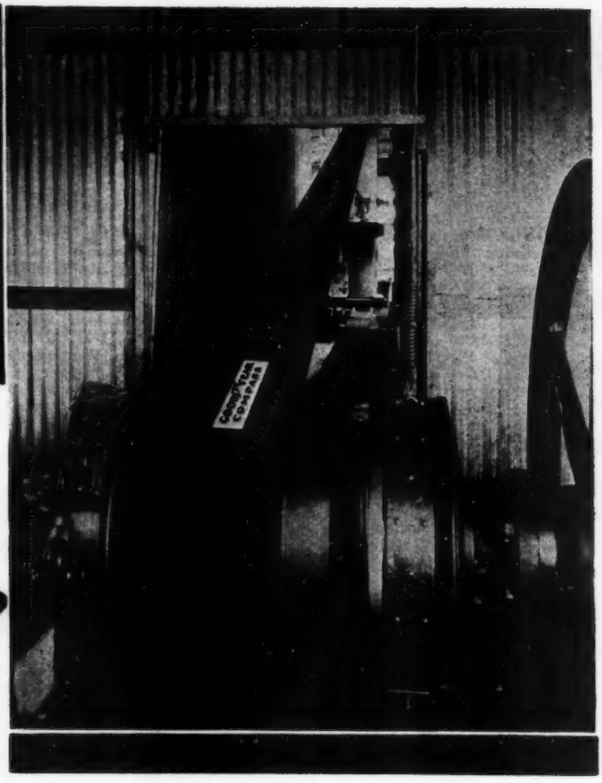
Week Ended October 31
All Rotary

BARBERS HILL—CHAMBERS COUNTY

Company, farm and location—	Remarks:
Mills Bennett Production Co.'s No. 5 Wilburn, Henry Griffith League, 350 ft. W of No. 4 in C of lease	Set 55 ft. of 5-in. screen 4,407 ft; completed flowing 1,800 bbls. of P.L.O., 440 lbs. pressure, ½-in. choke.
Mills Bennett Production Co.'s No. 1 Gulf fee, Henry Griffith League, 50 ft. out of NE cor., Strip 15	Cmtd. cavity 1,464 ft.
Mills Bennett Prod. Co.'s No. 6 Wilburn, Henry Griffith League, 125 ft. W of No. 5 in center of tr.	Rig.
Mills Bennett Prod. Co.'s No. 3 Gulf Fisher (W.O.), Wm. Bloodgood Sur., 600 ft. from S line and 50 ft. from W line of 25-ac. tr.	Set 5 joints screen 5,056 ft; completed flowing 2,200 bbls. P.L.O., 690 lbs. pressure, ⅛ and ¾-in. chokes.
Gulf Prod. Co.'s No. 6 Wilburn, Henry Griffith League, 50 ft. from S line of lease and 400 ft. W of No. 3	Rig.
Nat Hunter Prod. Co.'s No. 8-H Kirby, Henry Griffith League, 333 ft. W of No. 6-H Kirby and 70 ft. N of S line	Sand showing oil 4,381-95 ft; cmtd. 7-in. csg. 4,342 ft.
Nat Hunter Prod. Co.'s No. 2 Tarbutton, Henry Griffith League, 385 ft. from E line and 21 ft. from N line of tract	Drlg. sandy shale 5,297 ft.
Nat Hunter Prod. Co.'s No. 3-B Barber, Henry Griffith League, 538 ft. from E line, 70 ft. from S line of tract	Drlg. rock 1,236 ft.
Nat Hunter Prod. Co.'s No. 1 S. E. Morgan, 225 ft. N of S line in center of Strip 2 (4.4 acres), Henry Griffith League	Drlg. gumbo and boulders 788 ft.
Sinclair Oil & Gas Co.'s No. 8 Wilburn, Henry Griffith League, 350 ft. W of No. 7 and 48 ft. from N line of tract	Drlg. hard shale 4,421 ft.
Sinclair Oil & Gas Co.'s No. 9 Wilburn, Wm. Hodges Sur., 50 ft. N of S line and 550 ft. W of No. 6	Drlg. sandy lime rock 1,097 ft.
Sun Oil Co.'s No. 2 Winfree, W. D. Smith Sur., 50 ft. E of SW line and 150 ft. N of S line of tract	Set 229 ft. of 5-in. (O.D.) screen 5,359 ft; rigging up to pump.
Sun Oil Co.'s No. 11 Wilburn, Wm. Hodges Sur., 550 ft. W of No. 5 and 50 ft. from N line of tr.	Set 22 ft. of 6¾-in. screen 2,610 ft; completed flowing 200 bbls. P.L.O., through tubing.
Sun Oil Co.'s No. 3 Smith (W.O.), W. D. Smith Sur.	Rig up to W.O. 5,323 ft.
Sun Oil Co.'s No. 12 Wilburn, Wm. Hodges Sur., 50 ft. from N line and 75 ft. W of No. 11	Spudded.
The Texas Company's No. 7 Wilburn, Henry Griffith League, 116 ft. S of Humphreys Corp.'s No. 8-H Kirby	Drlg. sticky shale 4,055 ft.
The Texas Company's No. 2 Lawrence, Henry Griffith League, 240 ft. from E line and 412 ft. from N and S lines of strip	Drlg. sticky shale 3,223 ft.

(Continued on Page 71)

ONE SURE HELP FOR DRILLING COSTS IN THIS COMPASS DOUBLE-SHOCK-PROOF BELT



PUT this double-layered Goodyear COMPASS Cord Oil Well Belt on your pumps and drilling rigs and forget your belting troubles.

That firm double-thick core of cords withstands the shocks which break down ordinary belting.

That stout double-ply envelope around the cords protects from wear against pulleys and idlers.

Rubber of stubborn Goodyear toughness cushions core and envelope from flexing wear.

You should have the savings other operators are making with this latest product of the Goodyear development laboratories.

The G.T.M.—Goodyear Technical Man—specifies Goodyear Belting and Goodyear Oil Industry Hose accurately to the requirements of your production—Hose to the measure of your crude and refined oils—Belting to the measure of rigs and pumping equipment.

Today more than ever you should utilize Goodyear's experience in rubber manufacturing. Just write to Goodyear, Akron, Ohio, or Los Angeles, California, and ask the G.T.M. to call.

THE GREATEST NAME IN RUBBER

GOODYEAR

BELTS · MOLDED GOODS · HOSE · PACKING

Guadalupe Well Rated at 5,460 Barrels

Humble Producer in Extension Pool Southwest of Darst Creek Second Biggest Well in Southwest Texas in Year

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., Nov. 2.—Humble Oil & Refining Co.'s No. 1 Dan Denman in Guadalupe County in the extension pool a mile southwest of the Darst Creek Field, came in at first gauging at the rate of 3,195 bbls. but a few hours later was gauged again and was making at the rate of 5,460 bbls. per day. It is the second big well in the extension and along with the proof that the Neal, Milton and Kepley well in Saxet Field in Nueces County is not making water from the bottom of the hole and new activity in the Pettus Field in Bee County following the testing of the Buchanan & Lefevre No. 1 Ray, constitutes the feature of the week.

Next to John F. Camp's No. 1 Sue Denman, 900 feet north of it, which came in for about 8,000 bbls. initially, Humble's No. 1 Dan Denman is the biggest well completed in Southwest Texas in over a year. The first gauge reported was taken before the hole had cleaned itself. The second, taken some time later, is a more accurate gauge of the capacity of the well. It went into the crevice at 2,345 feet and had crevice down to 2,358 feet. Elevation is 462 feet, and it topped the chalk at 2,214 feet.

Producing From Crevices

Two of the four producers in the extension are producing from crevices, Humble's No. 1 Dan Denman, 900 feet south of Camp's discovery well, and Camp's No. 1 Dan Denman, 1,000 feet south of Humble's No. 1 Dan Denman. Camp's discovery well went from a thin slice of chalk direct to the Edwards and Humble's No. 1-C Sue Denman, an east offset to it, came in a rather small well but topped the chalk at 2,145 feet and the Edwards at 2,505 feet, making the interval 360 feet, but the nature of the other three wells leaves the field much in the air as to what further can be expected of it. Humble has plugged back on its No. 1-C Sue Denman and has decreased the water by about one-fourth, making it a somewhat better well than at first.

Barnhill and others have spudded in and set casing in No. 1 H. L. Hoffman in the John G. King Survey about 6 miles due west of the discovery well of the Darst Creek Field and about 3 or 4 miles northwest of the axis of the Darst Creek Field. It does not have any bearing on the new extension to Darst Creek, but is in a territory where Eugene Sights has been wildcatting and has proven a fault line with some showings of oil. Thus far any additional wildcatting that might pick up and extend production across the Guadalupe River is delayed until more information develops in the new extension.

Pretty close attention is going to be paid by M. W. Eiser's No. 1 Wells in Guadalupe County, in the Jose de la Baume Survey, 2,000 feet northwest of No. 1 Wells, drilled a couple of years ago by Grayburg Oil Co. The Grayburg got so much geology in No. 1 Wells it was moved to drill a second test even though the first did not get production. The second test was 2,500 feet southeast of No. 1 and it failed to get production also. Eiser is moving 2,000 feet northwest of No. 1 drilled by Grayburg. This test is about 4 miles southeast of a line through the trend of the Darst Creek and is about 7 miles southwest of the southwest end of the Darst Creek Field. It is along a line that the Shell Petroleum Corp. played and 5 miles southwest of the test the Shell drilled on the Denman land near the Guadalupe River. Fault lines in the Balcones zone take a northeast-southwest trend and this line of play was started by A. G. Keiffer's No. 1 B. B. Dix, 7 miles northeast of the new Eiser location and 2 miles northeast of the Shell Petroleum Co. test.

Watching Another Test

One other test in the Guadalupe County district is to be watched. It is Pray and Campbell's No. 1 W. F. Kruger, 150 feet from the south and east lines of the farm, which is also the south and east lines of the H. Branch Survey, the south line being the Guadalupe River. It is about as far northwest of the strike of the Darst Creek Field as the Eiser test is southeast.

The test is about a half mile northeast of W. J. Walton's No. 1 Anton Zoboroski, which is flowing about 8 bbls. a day from total depth of 2,210 feet and bottomed in the chalk which was topped at 2,183 feet. Walton's well is on the south side of the Guadalupe River. A little over a half mile northeast of Pray and Campbell's No. 1 Kruger a test was drilled on the Hoffman farm by Adams & Lyles and abandoned dry in the Eagleford at 2,670 feet and a little over a half mile southwest of the Walton flowing well Adams and Lyles drilled No. 1 Frank Zoboroski and abandoned it at 2,718 feet in the Edwards with sulphur water. It had an elevation of 476 feet and topped the chalk at 2,322 feet while Walton topped it at 2,183 feet. On subsea Walton got the chalk 100 feet high. The two Adams and Lyles tests got on the downthrow side. Walton stopped in the chalk. No telling what he might get if drilled to the Edwards and the Pray and Campbell test is looked up as having a pretty good chance to open an Edwards lime field. The derrick is up and it will soon spud in.

Saxet Field in Nueces

Neal, Milton & Kepley's No. 1 Roark in the Saxet Field in Nueces County ran a drill stem test with the tester on the bottom of the hole and it made no water. Hence it is conclusive that the water is not from the bottom of the hole and may be coming from behind the casing. Tests are now being made to ascertain that. Two other tests are now down to the same 4,800-foot sand. L. L. Smith's (Southern Drilling Co.) No. 1 Alexander at 4,872 feet is in a salt water sand and the Gulf Coast Oil Co.'s No. 1 Elder, 2½ miles west of No. 1 Roark at 4,897 feet set casing when unable to get a drill stem test because the sand had a good showing of oil. It is waiting for the cement to set.

Pettus District

The new Pettus Pool is to see a lot of new development. Buchanan & Lefevre plugged back their No. 1 Ray, which extended the field more than a half mile to the southwest but did not plug back as far as intended and have plugged back again to make a total of about 10 feet and bring the bottom of the hole to 2,898 feet. There seems to be no doubt it will come back in a good well and considerable new development is to start at once. C.R.M. Drilling Co. will offset it with a well on the west and Weinert has locations for two wells and is starting one between the Buchanan & Lefevre well and the Damac discovery well. Slick estate is offsetting the Damac discovery well on the east and Houston Oil Co. is offsetting it on the southeast, and if these tests are brought in as producers they will all call for additional offsets. Also the Buchanan & Lefevre well will call for a north and east offset which have not yet been started.

There is a demand for this new oil and this is encouraging the drilling of additional wells. United Production Co.'s No. 39 Ray, in the northeast part of the field, at last reports was at 6,810 feet and drilling.

Humble's wildcat in the southeast corner of Bee County has made more hole but Hughes and others' No. 1 Martin, in the western part of the county, is rigged up but waiting for water. J. M. Davis and associates is getting ready to drill in the northwestern part of the county.

Laredo District

Newton, Owens & Evans' No. 1 Garza, in Block 4, Share No. 1 of Survey 161 in Zapata County in sand at 1,753-58 feet on drill stem test looked like a gas well and has set casing and is about ready to drill plugs. It is somewhat wildcat and is about a mile southeast of a gasser brought in months ago by South Texas Production Co. in Survey 162. It is about 3 miles northeast of the Escobas Pool and is a mile or more due south of a group of gas wells that were drilled around the discovery well of the Magnolia Petroleum Co. in Survey No. 6, brought in at approximately the same depth as the No. 1 Garza has its showing.

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

ATASCOSA COUNTY

Company, farm and location— Remarks:
Glen Mathis' No. 2 Mrs. C. Martin, 100 ft. SE of No. 1.. T.D. 2,980 ft; S.D.

BLANCO COUNTY

Hardy-Sitton's No. 1 McMillian ..... T.D. 602 ft; S.D.
Theo. Hicks' No. 1 Specht, 1,500 ft. from S line, 500 ft. from W line of farm, in Thomas M. Fowler Sur. No. 37 in extreme south point of county ..... T.D. 1,650 ft; drlg.
Lilies Adams et al's No. 1 Luders, 150 ft. to S line, 1,420 ft. to E line of James Stanford's No. 155..... T.D. 1,100 ft; standing.
McCleary et al's No. 1 Schenling, 900 ft. to SE line, 600 ft. to S line of J. A. Rouse No. 118 Sur., 4 miles SW from Blanco City ..... T.D. 574 ft; S.D.
C. Rosenfield's No. 1 Hohenberger, 800 ft. to W line, 1,260 ft. to N line, Sur. No. 94 ..... T.D. 712 ft; S.D.

BASTROP COUNTY

W. A. Allen's No. 1 Birmingham, Jas. Stewart Sur. ..... T. D. 1,215 ft.; standing.
Texas Dev. Co.'s No. 1 C. H. Ray, 800 ft. from W line and 400 ft. from S line of farm, in Thos. Christian Sur. ..... T.D. 1,600 ft; drlg.

BELL COUNTY

Field & Lange's No. 1 Stubblefield, 450 ft. from S line and 150 ft. from E line of farm in Antonio Manchaca Sur. ..... T.D. 410 ft; drlg.
J. W. Riley's No. 1 W. S. Chaffin, in M. Griffin Sur. .... T.D. 325 ft; drlg.
Jas. Scroggins' No. 3 Warrick, Ingram Sur. ..... T.D. 1,425 ft; drlg.

BEE COUNTY

Alexander et al's No. 1 McFall, 3 miles S Skidmore..... T.D. 1,870 ft; standing.
Hughes et al's No. 1 Martin, 1,000 ft. S of Simms Oil Co.'s No. 1 Holzmark in John Lyford Sur. ..... Waiting on wtr.
Humble O. & R. Co.'s No. 1 Laura Thompson, 6,360 ft. from N line, 15,100 ft. from W line of tr. in Garrett Roache Sur., S part of county ..... T.D. 2,725 ft; drlg.

BEXAR COUNTY

Callahan Final Oil Co.'s No. 1 B. H. Buck, 900 ft. to E line, 3,300 ft. to S line of farm, in J. M. McGamley Sur. ..... Set 1 joint surface csg.
J. E. Anderson's No. 1 Suburban Irrigated Farms, 500 ft. to N line, 600 ft. to E line of C. Logan Sur. ..... T.D. 1,135 ft; set csg. at 1,117 ft.
Ingersoll-Miller's No. 2 Carruth, 2,900 ft. S. 2,500 ft. W of NE cor. of tr. in Francisco Bolen Sur. ..... T.D. 480 ft; standing.

(Continued on Page 68)

SOUTHWEST TEXAS PROVEN AREAS

DOBROWOLSKI POOL—BEXAR COUNTY

Company, farm and location— Remarks:
W. S. Rogers et al's No. 1 L. Donnop, Juan Montez Sur. .. T.D. 612 ft; S.D.
Gatlin Oil Co.'s No.9 Beck ..... Making location.
Whipple et al's No. 1 Gembler, 3,000 ft. to S line, 150 ft. to E line of A. Manchaca Sur. ..... T.D. 715 ft; tested gas 175 lbs.

PETTUS POOL—BEE COUNTY

C. R. M. Drlg. Co.'s No. 1 Ray ..... Making location.
United Prod. Co.'s No. 39 Ray, 1,130 ft. to SE line, 2,396 ft. to SW line of T. Hanson Sur. ..... T.D. 6,690 ft; drlg.
Buchanan & Lefevre's No. 1 Ray, 3,154 ft. from E line, 150 ft. from N line of Jno. W. Williamson Sur. ..... T. D. 3,908 ft.; plugging back 5 ft.
H. H. Weinert's No. 1 Ray, 150 ft. N and E lines of lease in Jno. W. Williamson Sur. ..... Derrick.
Houston Oil Co.'s No. 2 Portis, 330 ft. from N and W lines of A. Smalley Sur. ..... Location.

BRUNER POOL—CALDWELL COUNTY

Joe Bruner's No. 1 Malone, 150 ft. to N line, 750 ft. to W line of tr., A. Floyd Sur. ..... T.D. 2,572 ft; set csg.; standing.

S.R.C.-VACUUM POOL—DUVAL COUNTY

S.R.C. and Vacuum Oil Co.'s No. 5 Duval Cattle Co., 150 ft. W, 330 ft. N of No. 1 ..... T.D. 1,700 ft; coring.

SCHOOLFIELD-O'BYRNE POOL—DUVAL COUNTY

Humble O. & R. Co.'s No. 2 Paul White, 1,320 ft. to W line, 990 ft. to S line of Sur. No. 58 ..... Set surface csg.
Magnolia Pet. Co.'s No. 6 Wilson, 330 ft. to E line, 2,346 ft. to N line of Sur. No. 136 ..... Rigging up.
Magnolia Pet. Co.'s No. 5 Wilson, 330 ft. from N line and 1,320 ft. from W line of Sur. No. 134..... T.D. 2,416 ft; completed 400 bbls.
The Texas Co. No. 3 Bishop Cattle Co., 1,175 ft. from W line, 330 ft. from S line of Sur. 135 ..... T.D. 1,000 ft; drlg.

COLE POOL—DUVAL COUNTY

Cole Petroleum Co.'s No. 71 Benavides, 365 ft. from SE line, 442 ft. from NE line of Blk. 8, Sec. 19, Cole sub. Mariana Arispe grant ..... T.D. 25 ft; drlg.

CAMP POOL—GUADALUPE COUNTY

John F. Camp's No. 1 Dan Denman, 150 ft. to N line, 450 ft. to E line of tr. in Wm. Arrington Sur. ..... T.D. 2,403 ft; flowing oil.
Humble O. & R. Co.'s No. 1 Dan Denman, 450 ft. to N line, 150 ft. to W line of lease in Wm. Arrington Sur. T.D. 2,358 ft; gauged at 5,460 bbls.

(Continued on Page 68)

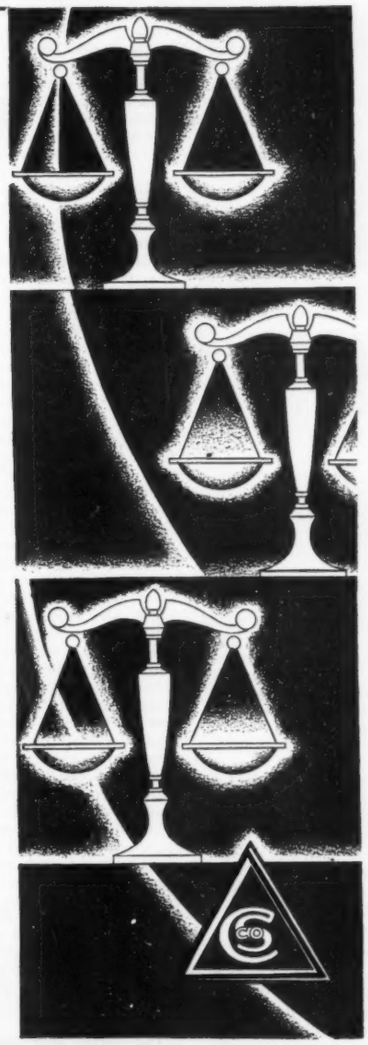
WALWORTH
STANDARD VALVES

BUILT WITH PERFECT ACCURACY

Iron Body... Bronze Mounted or All Iron

125 Lbs. W. S. P.
175 Lbs. O.W.G.

Walworth Engineers are noted for the skill, the precision and the perfect accuracy with which they produce valves. The Walworth Valve for 125 Lbs. Working Steam Pressure (175 Lbs. working oil, water or gas pressure at ordinary air temperatures) is a fine example of this engineering and manufacturing supremacy. Castings are flawless and all threading and assembling is done with perfect accuracy. This Walworth Valve is simple, compact and durable. It will withstand a lot of rough usage and continue to give satisfactory service long after ordinary valves have failed. That's why the Walworth Valve is really the "Choice of Experience."



"If Continental Sells It... There Is No Better"

THE CONTINENTAL SUPPLY COMPANY
GENERAL OFFICES: ST. LOUIS

THE CONTINENTAL SUPPLY CO., LTD.—224 Traders Building, Calgary, Alberta, Canada ... *Export Offices: CONTINENTAL EMSCO CO. INC.,—74 Trinity Place, New York—London Offices: 316-17 Dashwood House, Old Broad St., E. C. 2.* CONTINENTAL EMSCO S. A. R., 7, Strada Eminescu, Ploesti, Romania.

00J-21-9-GRAY

CONTINENTAL

Good Saturation In Fort Morgan Test

Prairie's Greasewood Well Is Running High. Three New Locations Announced. Almost Pure Gasoline Well Near Aztec, N. M.

By Tolbert R. Ingram
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Nov. 2. — President W. A. Myers, of the Colorado Associated Oil Co., has confirmed reports of the Dakota sand showing good saturation of high gravity crude in that company's No. 1 Pumphrey, on the North Fort Morgan Dome in northwestern Colorado, 18 miles southeast of the Greasewood operation. The Prairie Oil & Gas Co.'s No. 1 Mortier, 6 miles southeast of Greasewood, is running high and made 5,000 feet of hole in 10 days. The Reiter-Foster Oil Co.'s No. 1 Johnson-Juhl, at Greasewood, half a mile west of production, is drilling in. A water supply system for the field is to be constructed at once. Three new locations have been announced. The Dakota at Greasewood is to be tested in the discovery well.

Litigation involving 640 acres adjoining the Lea Pool on the northwest, in Lea County, New Mexico, which has held back development, has been settled. Culberson & Conrad's test in the Caprock area is being abandoned. R. C. Oswell has a 25-bbl. well near Aztec that is producing almost pure gasoline at 1,414 feet.

The Government has called for bids for the Salt Creek royalty oil. The Midwest Refining Co.'s No. 24 Rosenberg, on the Frannie Dome, in Park County, Wyoming, which extends the pool half a mile to the west, swabbed 270 bbls. The Ohio Oil Co. is abandoning its two wells on the Cody Dome and plans no further development. One new operation spudded in Washakie County.

The Government is calling for bids on Cat Creek, Montana, royalty oil. A large gas well extending the Cut Bank Field is being completed in Glacier County. The Liberty Gas Co.'s No. 1 Corwin, on the Bear's Den structure in Liberty County, was dry and abandoned.

The Utah Southern Oil Co.'s Salt Valley test in Utah has found the salt beds much thicker than at first estimated and there is no data upon which to determine the depth necessary to drill.

The Ohio Oil Co.'s test on the Crystal Dome in Idaho, is on top of the objective sand and ready to drill in.

COLORADO

Weld-Morgan Counties

Oil operators in northeastern Colorado are standing on tiptoe awaiting the outcome in four wells nearing the completion stage which are expected to reveal eagerly-sought information regarding subsurface conditions in that area. Two of these wells, barring bad luck, are scheduled to come in within a day or two, and the results in the other two probably will not be known for two or three weeks.

The first well due for completion is Reiter-Foster Oil Co.'s No. 1 Johnson-Juhl, C SE SE, Section 14-6n-61, on the Greasewood Dome in Weld County. It is a half mile west of Continental Oil Co.'s No. 1 Briggs, a producer, and is making hole below the 9⅝-inch cemented with 300 sacks at 6,640 feet. It is expected to drill into the sand either Friday or Saturday. There is so much doubt whether Greasewood is a local high, a terrace or the edge of a major structure, that any additional information revealed in this well will be important. It is believed the Johnson-Juhl well is running approximately 3 feet higher than the Briggs well to the east.

The other Greasewood well due for completion is Continental Oil Co.'s No. 1 Gadbois, C SE SW, Section 24-6n-61, half a mile south of the discovery and a mile south of No. 1 Johnson-Juhl. It is bottomed at 6,593 feet; within a few feet of the objective, and has been held up with a fishing job. Most of the cable, of which 6,000 feet dropped into the hole, has been recovered, and the tools are at the bottom. The operator is very hopeful of completing the job within a day or two.

One-fourth mile southwest of Continental's No. 1 Gadbois, the Greeley Oil Co.'s No. 1-B Gadbois, C NW NW, Section 25-6n-61, has cemented 9⅝-inch at a total depth of 5,550 feet. It has nearly 1,000 feet to go and another string to cement before it will be ready to drill in.

Fort Morgan Dome

The third key well awaiting completion is Colorado Associated Oil Co.'s No. 1 Juanita Pumphrey, C SE SE, Section 14-4n-58, on the North Fort Morgan Dome in Morgan County, 18 miles southeast of the Greasewood operation. This well, which gives promise of opening a new pool, was reported last week to have found the Dakota sand saturated with high gravity crude oil when cored 15 feet at 5,830-45 feet. President W. A. Myers has released an official statement this week which stated that the Hygiene formation showed a sandy shale horizon approximately 150 feet in thickness containing a substantial quantity of gas. The cores of the Muddy sand, encountered at 5,759 feet showed a thickness of 22 feet. This sand, he stated, is crossbedded and broken and probably not entirely a promising horizon at this location. However, it showed a total thickness of 16 feet of oil and gas saturation. The cores of the Dakota sand, the top of which was encountered at 5,830 feet and drilled to a depth of 15 feet, showed a very good porous sand heavily saturated with high gravity crude oil with considerable gas in the upper 2 feet. Mr. Myers' statement said: "There is every indication to warrant the assumption that a sizable well of high gravity crude with considerable gas will be developed as soon as the well can be completed."

Six thousand feet of 44-pound 8⅝-inch casing now en route should arrive shortly. High pressure connections already are on the property. It will require close to three weeks to set and cement the casing, which will be run to 5,825 feet, and get the well ready to test. Interested in this operation with Colorado Associated Oil Co. are Midwest Refining Co., Salt Creek Producers Association, Mountain Producers Corp., North European Oil Co., and a number of individual operators. The block comprises more than 17,000 acres.

The fourth well sufficiently advanced to attract attention is Prairie Oil & Gas Co.'s No. 1 Mortier, C NE NW, Section 2-5n-60, Jackson Lake area, which is bottomed at 5,290 feet and is running 9⅝-inch. It is 6 miles southeast of the Greasewood operation, in Morgan County, and between Greasewood and the Colorado Associated discovery on the North Fort Morgan Dome. It reached its present depth in 10 days after starting drilling with rotary below the conductor pipe. The elevation is 4,657 feet and it reached top of the Hygiene at 2,825 feet. Based on that marker, it is running around 200 feet higher than the wells at Greasewood. The Colorado Associated well is running nearly 800 feet higher than the wells at Greasewood.

Rapid Drilling

The rapid drilling with rotaries in this district is causing operators to revise their estimates of the cost of wells. At first the figure was around $140,000 per well, but it is now believed they can be brought down to an average of $60,000 and some estimates go as low as $30,000 for individual wells that have a good run of luck. The Colorado Associated well required only 20 days' actual drilling time and only one string of pipe was required.

The discovery of oil in the Dakota formation in the Colorado Associated well on the North Fort Morgan Dome again attracts attention to the possibilities of that horizon at Greasewood and the Platte Valley Petroleum Co.'s No. 1 Patterson, NE SE NW, Section 24-6n-61, the discovery well, is being deepened from the Muddy to the Dakota. It passed out of the Muddy at 6,690 feet, the sand being 30 feet thick, and is drilling below 6,698 feet. Top of the Dakota is expected somewhere between 6,740 and 6,750 feet. The fact that no water was found in the Muddy makes the deeper horizon much more promising for big wells. The main Dakota sand was found to be 170 feet thick at the Willard well in Section 36-8n-55, Logan County, and 151 feet in the Indian Territory well to the southeast of Fort Morgan. The Dakota is a blanket sand extending over a vast area in Colorado, Wyoming and northwestern New Mexico, and may prove to be the principal producing horizon in northeastern Colorado. No. 1 Patterson is flowing 120 bbls. daily from the Muddy while drilling is in progress.

Continental Oil Co.'s No. 1 Briggs, C SE SW, Section 13-6n-61, the third producer in Greasewood, completed late in September, is making 494 bbls. naturally. The well is being tubed with a string of 2½-inch with a joint of 3-inch at the bottom.

Reiter-Foster Oil Co.'s No. 1 Ida Johnson, C NE NW, Section 24-6n-61, is down to 178 bbls. per day, but the operator is not trying to force production. The indications now are that the wells in the Muddy get their best production in the upper few feet of sand and by making some mechanical changes, this well probably could be brought back to its original figure, but it has been decided to leave it alone so the hole can be carried on down to the Dakota if considered advisable.

Operating Agreement

Frank E. Kistler & Co. have taken over the E half of Section 13-6n-61, under an operating agreement with Platte Valley Petroleum Co. and will drill No. 1 Niles, C SW SE of the section, an east offset to Continental's No. 1 Briggs. Cellar and slush pits have been completed and negotiations for a drilling contract are pending. It may be that in this well 9⅝-inch will be run to around 3,000 feet instead of the 5,000-foot horizon in the other wells, as that is considered all that is necessary in view of conditions as revealed in the other wells.

Reiter-Foster Oil Co.'s No. 1 William Wilson, C NE SE, Section 24-6n-61, is bottomed at 186 feet and is waiting for rotary from No. 1 Johnson-Juhl.

Aztec Corp.'s No. 1 State, C NE NE, Section 16-6n-61, is standing at 100 feet. A contract with the Sultan Drilling Co. filed this week reveals that in the event the Aztec company is unable to finance the well, the Sultan company can take it over and complete it and take an interest in the Aztec leases and production for compensation. W. R. Ramsey has agreed to contribute $16,000 bottom hole money. Ramsey has a lease on the SE, Section 16 and has closed a deal with W. L. Christiana for the SW, Section 14-6n-61.

E. L. Cobb, of Taft, Calif., has announced a location for his No. 1 Frank Carlson, C SE SW, Section 15-6n-61. C. E. Cobb, his brother, is arranging the details of the contract. The starting of operations will depend upon arrangements for a water supply.

Water System Planned

Plans for a water system for the field are being matured by David Grimes and associates, of Denver. Mr. Grimes is with the Grimes Pipe & Supply Co. Water rights have been secured from E. L. Laycock and Andrew H. Ross in the Crow Creek district. The Laycock lease involves rights for 20 and 43 second feet of water from the Camfield ditch and the Ross lease calls for 26 second feet. The priorities go back to 1884, 1885 and 1906. The system calls for an underflow ditch 2 miles long in Section 29, 30, 31 and 32-9n-61, and a pipe line to the Greasewood Field, with pumping plant, etc. The system is expected to cost around $254,000 and construction by a company to be formed for that purpose probably will start just as soon as the results in the two wells now nearing completion in the Greasewood Field are known.

Gulf States Oil Corp.'s No. 1 Bengston, C NW NW, Section 6-4n-63, Box Elder district, is still a location. A deal is reported to have been closed with W. F. McCormick for a rig used near Castle Rock, south of Denver.

Prairie Oil & Gas Co.'s No. 1 O'Toole, C SE NE, Section 33-7n-62, Crow Creek, is erecting derrick and setting boilers. A pipe line for water is being laid from the George W. Coon water well, 4 miles northeast of Cornish. The pumping plant will be in NE NE, Section 17-7n-62. The deal with Mr. Coon gives the Sultan Drilling Co. water rights on an underflow well and the right to drill additional wells. Mr. Coon is to receive $400 for water for each well drilled.

Retter Oil Co.'s No. 1 Smith, C E half, Section 14-1n-66, Brighton district, is waiting for die at a total depth of 1,377 feet. The 12½-inch parted 648 feet from the top. It had been carried to 1,295 feet.

In the Greasewood area in Morgan County, Tulsa-Fort Morgan Oil Co.'s No. 1 Emil Smith has changed location from C SE SW, Section 18-6n-60, to the C SE NW of the same section.

Independent Oil & Refining Co.'s No. 1 Schmidt, C NE NW, Section 19-6n-60, has derrick up.

In Morgan County, outside of the Greasewood area, Badger Creek Oil & Gas Co.'s No. 1 Kent, SW cor., Section 2-2n-57, Badger Basin, has resumed and is drilling below 1,300 feet with 15½-inch bit. J. Juhan is in charge of this operation.

Rickhoff & Gebhard are reported to have made a location in the SE NE, Section 17-5n-58, northeast of Weldona. Lou G. Gebhart, of this firm, says it is not certain whether the well will be drilled in Section 17 or 18 and final location has not been made. Contract has been given to the Whipple Drilling Co., of Casper, and will be a rotary test to 7,000 feet.

Indian Territory Illuminating Oil Co.'s No. 1 State, C NE NE, Section 16-1n-57, Fort Morgan anticline, is bottomed at 5,920 feet and milling on junk at 5,662 feet. The 8¼-inch is reported to have parted and milling tool was run in an attempt to rethread. Top of the Lakota was reported to have been encountered at 5,910 feet and found to be water bearing. The Muddy and Dakota were reported dry.

William Myers and others' No. 1 Lee & Lusby, C NE SW, Section 6-2n-56, is pouring derrick foundations. This is on the Roundtop structure which was mapped by the Midwest Refining Co., but which it would not agree to drill before spring. The Midwest, apparently, is re-

ducing its exploration work in this area extensively and this week filed releases on 5,000 acres north of Stoneham in Townships 8 and 9, Range 56w. The Roundtop well is reported under contract to spud by November 5. Mr. Myers is president of the Colorado Associated Oil Co., and pending the completion of the North Fort Morgan test, details of the Roundtop operation have not been announced.

Washington County

Frank E. Kistler & Co., who recently took an option on the Middlemist well in SE SW SE, Section 14-4n-56, Middlemist Dome, and surrounding acreage, has paid up the rentals on most of the acreage which was about to lapse and is reported to have only a few holes to close in the block. It is probable, however, that drilling will not be resumed until spring. The well is bottomed at 1,510 feet.

Adams County

Hills Dome Lease Development's No. 1 Hills, SE cor., Section 27-3s-64, is bottomed at 3,740 feet and circulating to lower 8⅝-inch. The hole is showing considerable gas through a hole full of water and at the present depth a scum of oil is reported covering the bailer.

Arapahoe County

MacDeb Drilling Co.'s No. 1 Fitzsimmons, NE, Section 7-4s-66, near Aurora, is bottomed at 5,785 feet and has made no new hole pending outcome of stockholders meeting being held in Denver.

Lincoln County

Eastern Colorado Oil Co.'s No. 1 State, SE cor. NW, Section 36-14-57, near Hugo, is fishing for bit at a total depth of 3,425 feet.

Jefferson County

Ruby Hill Oil & Gas Co.'s No. 1 Braden, SE cor., Section 24-4s-69, is bottomed at 4,100 feet and lowering the 6⅝-inch.

El Paso County

Gulf States Oil Corp.'s No. 2 Carson, NW NE NE, Section 10-16s-66, Fountain district, is preparing to resume at 1,025 feet. O. W. McLeod has the contract. The well and a block of 12,500 acres was acquired from the Utemoor syndicate.

Pueblo County

Anchor Oil Co.'s No. 1 Esely, NE SW SW, Section 35-22-67, Turtle Buttes, is drilling at 788 feet. It is probably in the lower Morrison.

Larimer County

The Raddatz Corp., which recently acquired an interest in 1,000 acres on the Berthoud Dome, is reported to have made a deal with the Five Square Oil & Gas Co. for a four-year development program on its acreage. There are several producers on the Five Square acreage. Raddatz Corp.'s No. 1 State, SW cor. NW, Section 16-4n-69, which is bottomed at 3,780 feet in the Muddy, has been endeavoring to complete. While lowering 5⅛-inch this week, the hole cleared itself and shot oil to the top of the derrick. Same firm's No. 1 Fagin, SE cor. NE, Section 17-4n-69, is ready to spud.

Mayer Oil Co.'s No. 1 Reed, SW cor. NW, Section 28-4n-69, is preparing to resume at 2,400 feet. P. J. Mosher, Inc.'s No. 1 Mead, SW SE, Section 17-4n-69, is drilling at 740 feet. Consolidated Drilling Co.'s No. 1-A Maxwell, SE NE NE, Section 25-8n-70, Bellvue district, pulled 12½-inch to replace shoe and is rerunning. Colorado Producers, Inc.'s No. 1 Foster-Motz, SW SE SE, Section 17-4n-69, Berthoud Dome, is drilling below 1,000 feet.

Park County

South Park Oil Co.'s No. 1 Milligan, NE cor. SE, Section 13-8s-76, Jefferson district, is bottomed at 2,605 feet and cleaning out and lowering the 6⅝-inch. South Park Oil & Gas Co.'s No. 1 Esche, SE cor. NW, Section 5-9s-76, is shut down at 2,465 feet.

Moffat County

The Ohio Oil Co. is preparing to drill a test on the Craig structure, 3 miles southwest of the town of Craig, following the adoption of the town board on second reading of an ordinance granting the company a 25-year natural gas franchise. The 124-foot rotary rig used in drilling the Powder Wash discovery in the northern part of the county will be used in putting down the new test. The Craig structure has been favorably regarded, but heretofore has not been tested due to the depth at which the Dakota is expected. However, Midwest Refining Co. drilled a test on the Bell Rock Dome, 9 miles west of Craig, and discovered gas in a younger and higher formation than the Dakota.

Rio Blanco County

The California Co.'s No. 1 California-Raven, NW SE, Section 30-2n-102, Rangely Dome, is drilling at 2,799 feet, and Magnolia Petroleum Co.'s No. 1 Maddock, C NW SE, Section 9-2s-96, Piceance Creek, is drilling at 1,675 feet after drying up the hole with 13⅜-inch at 1,532 feet.

La Plata County

J. W. Irwin & Co.'s No. 1 Doescher, SW cor. NW, Section 29-33-13w, Dry Mesa, is coring at 3,135 feet, 19 feet in sand. The core is reported showing a slight saturation.

Archuleta County

Standard Oil Co. of Colorado's No. 1 Brooks, NW cor. NE, Section 2-32-2e, was abandoned at 81 feet, due to a crooked hole. Another test on this structure, known as the Price Dome, will be drilled later. Same company's No. 1 Fitzhugh, NW SE SW, Section 34-33-1e, Chromo Dome, after lowering the 8¼-inch to 613 feet to shut off Dakota water, is preparing to drill ahead.

NEW MEXICO

Litigation involving the oil and gas rights on 640 acres of land comprising Section 34-20-34, Lea County, lying to the northwest of the Lea Pool and within that structure, which has been pending for some time has been settled by the United States Supreme Court refusing to review the case. Suit was brought by Ivan L. Skeen, of Lea, in the Federal District Court and named Buelah V. Lynch, the Texas Production Co., and other as defendants. Skeen filed on the tract under the stockraising act of 1916 and was granted a certificate on March 11, 1929, the United States reserving the coal and other minerals. Beulah V. Lynch was granted a prospecting permit on the tract under the provisions of the general leasing act of February 25, 1920, and an agreement was made with the Texas Production Co. for its development. Skeen contended that the reservations did not include oil and gas, but only solid minerals. The lower court held in favor of the defendant and subsequently the United States Circuit Court of Appeals confirmed that decision. Refusal of the Supreme Court to review the case, finally disposed of the litigation. The Texas Production Co. drilled the tract in its No. 1 Lynch, NW cor. SE, Section 34-20-34, and brought in a producer in 1929. No other wells have been drilled between this producer and the producers in the Lea Pool on the southeast.

United States Senator Bronson Cutting, of New Mexico, is quoted from Santa Fe as saying he intends to seek congressional action at the coming session of Congress to reopen the public domain for prospecting for oil. Secretary of the Interior Wilbur issued his order forbidding the granting of prospecting permits on public land under the provisions of the general leasing act on March 12, 1929. This order was contested through the courts and finally was upheld recently by the United States Supreme Court. The only way the Secretary of the Interior can be relieved of this power, according to Senator Cutting, is by congressional action.

Lea County

Culberson & Conrad's No. 1 State, C NE, Section 22-18-34, in the Caprock area, is being plugged at a total depth of 5,005 feet. It topped the anhydrite at 1,800 feet and the salt at 1,925 feet. Base of the salt was at 3,060 feet. It had 2,100 feet of water at 3,360-75 feet and topped brown lime at 3,420 feet. It had a slight show of gas at 4,750 feet and a show of oil at 4,985-95 feet.

In the Hobbs Pool, Gypsy Oil Co.'s No. 1 East Grimes, SW NE SE, Section 33-18-38, is drilling at 3,679 feet in anhydrite and lime streaks and had a show of gas at 3,668 feet. Midwest Refining Co.'s No. 26 State, NW SE SE, Section 33-18-38, is drilling at 1,612 feet in anhydrite. Pacific Coast Oil Co.'s No. 1 Blakey, C SW NW, Section 28-19-38, southwest of production, is drilling water well.

Eddy County

Western Drilling Co.'s No. 1 Green, NE cor. NW, Section 29-17-29, northeast of the Artesia Pool, spudded October 20, and is drilling at 100 feet in the red beds. Flynn, Welch & Yates' No. 61 State, SE NE NW, Section 32-18-28, is shut down for repairs at 600 feet, in the red beds.

DeBaca County

Matador Oil Co.'s No. 1 Wood, NE SW SW, Section 6-4n-20, Salada Creek, is preparing to resume at 3,200 feet following a deal with the Kelsey Investment Co., Ltd., of Los Angeles, Calif., by which that company acquires approximately a half interest in the well and block under an agreement to finance the test to 4,000 feet.

Bernalillo County

Norina Realty Co., Inc.'s No. 1 Pajarito grant, NW cor. NE, Section 22-9n-1e, is drilling at 825 feet with 15½-inch on bottom. It had a water sand at 770-790 feet.

Santa Fe County

New Mexico Securities Co.'s No. 1 State, NE cor. SW, Section 6-10n-7e, Barton district, is spudding. E. B. Fisher has the contract. It is a test for carbon dioxide gas.

San Juan County

Continental Oil Co.'s No. 24, SW NW SW, Section 1-29-19, Rattlesnake Dome, is bottomed at 6,035 feet and mixing mud. It is having trouble with cavey formation. It is about 700 feet off the objective horizon in the Pennsylvanian. Its No. 17, C NE, Section 2-29-19, the discovery well in the deep pay, which was completed at 6,790 feet in 1929 with an initial production of 600 to 800 bbls. of oil and about the same quantity of water, went dead recently and tools were run to clean out. After this was done, it was connected up to swab through tubing, but failed to come back. It is now rigging up to deepen. The water which gave so much trouble came from above. The hole was drilled with cable tools and had been reduced to 4¾-inch casing. The water and oil separate readily and the well has produced more than 360,000 bbls. of oil. The deep test now drilling is being put down with a rotary and is expected to demonstrate the capacity of the pay much better than the discovery well.

Continental's No. 26, NW SE NE, Section 2-29-19, which will go only to the pays in the Dakota, is drilling at 620 feet.

R. C. Oswell's No. 2, NW NW, Section 34-30-11w, between Aztec and Bloomfield, is reported to have entered a sand of the Farmington series in the upper Cretaceous at 1,414 feet and to have bailed 1 bbl. per hour of very high gravity oil. One report says the crude is almost pure gasoline. The casing will be set on top of the sand and the hole drilled a little deeper. It had 550,000 feet of gas per day at 985-90 feet. It is reported the operator has been offered $2 per barrel for the crude. It is on a government permit of 1,667 acres and 200 feet south of a well drilled three years ago which had oil at 1,323-65 feet, but which had water standing on the sand for a long time.

WYOMING

The Department of the Interior has issued a call for bids for royalty oil from the government land in the Salt Creek Field to be opened December 1. The present contract, which is held by The Texas Company and the White Eagle Oil & Refining Co. under a bid of 21¾ cents per barrel above posted Mid-Continent prices for crude of the same gravity, expires December 31, 1931. Government royalty oil has averaged around 3,000 bbls. per day this year, which is less than the average in recent years. It amounted to 1,325,000 bbls. in 1930. Altogether, the Government has received more than 29,000,000 bbls. of royalty oil from the field from which it netted $46,320,000 up to July 1, 1931. The current price of Salt Creek crude today is around 62 cents. It has fluctuated from $2.75 in 1920 to as low as 20 cents during the recent low crude prices. The average for the 11 years has been about $1.60 per barrel.

Park County

One completion was reported in Wyoming in Midwest Refining Co.'s No. 24 Rosenberg, NE SE NE, Section 26-58-98, on the Frannie Dome. It topped the Embar at 2,902 feet and was drilled to 3,001 feet. It swabbed 270 bbls. in 24 hours. This well extends the producing area a half mile west. Only one well on the structure has been carried to the Madison lime. It had a big flush production but for some time has been troubled with water.

Ohio Oil Co.'s No. 1 Burlington, SW SE SW, Section 21-53-101, Cody, or Shoshone Dome, completed at 4,540 feet in the Tensleep early in 1930, with an initial of 70 bbls., has been abandoned. Production gradually decreased until it went entirely to water. The discovery well, No. 1 Pulley, NW NW, Section 27-53-101, completed in 1928, turned to water and was abandoned some time ago. No further operations on the structure are planned.

Washakie County

Ohio Oil Co.'s No. 1 Strothers, SW SE NW, Section 19-45-92, Neiber Dome, is drilling at 8,049 feet in the Mowry shale with the Dakota series as the next objective. This well now holds the record as the second deepest hole in the Rocky Mountain states, being exceeded only by Resolute Oil Co.'s test at Badger Basin.

Bales Oil Trust's No. 1 Brome permit, NE NW, Section 31-48-80, Hidden Dome, spudded on October 20 with 15-

(Continued on Page 82)

GULF COAST PORT SHIPMENTS SHOW INCREASE IN SEPTEMBER

HOUSTON, Tex., Nov. 2.—A total of 18,772,941 bbls. of crude and refined products was moved out of Gulf Coast ports during the month of September, according to figures compiled from reports of more than 95 per cent of the terminals. Unreported shipments are estimated to have been around 1,000,000 bbls. The September liftings represented an increase of 559,936.34 bbls. over those of August. Movement of refined products to the Atlantic Seaboard accounted for most of the gain, although there was some additional increase in export shipments of crude. Coastwise liftings of crude and export refined product demand fell off. Shipments by companies and terminals were:

	Barrels				
	Crude		Refined		
Company and terminal—	Coastwise	Export	Coastwise	Export	Total
Atlantic Oil Prod. Co., Atreco	.....	.....	839,865.25	.....	839,865.25
Gulf Ref. Co., Port Arthur	331,969.62	.....	2,246,999.28	229,735.35	2,808,704.25
Humble O. & R. Co., Baytown	285,289.00	.....	1,391,168.42	1,090,209.13	2,766,666.55
Humble O. & R. Co., Harbor Is.	1,959,162.00	.....	.....	.....	1,959,162.00
Humble O. & R. Co., Ingleside	67,360.00	.....	.....	.....	67,360.00
Humble O. & R. Co., Neches	70,301.00	.....	.....	.....	70,301.00
Humble O. & R. Co., Tex. City	584,764.00	.....	.....	.....	584,764.00
Mag. Pet. Co., Beaumont	*665,356.62	.....	1,905,044.16	.....	2,570,400.78
Pure Oil Co., Smiths Bluff	631,778.39	.....	475,344.38	43,787.28	1,150,910.05
Stnd. Oil Co. (La.), Baton Rge.	333,206.00	19,565.00	713,098.00	781,591.00	1,847,460.00
Sun Oil Co., Sabine Pass	1,361,797.01	.....	.....	.....	1,361,797.01
The Texas Co., Port Arthur	263,788.00	617,306.00	1,343,170.00	421,287.00	2,745,551.00
Total September	6,654,771.64	636,871.00	8,914,689.49	2,566,609.76	18,772,941.89
Total August	6,761,250.98	534,867.00	8,179,253.94	2,737,633.63	18,213,005.55
Difference	106,479.34	102,004.00	735,435.55	171,023.87	559,936.34

California Crude Oil Situation Better

Development of Recently Discovered Sespe Zone at Elwood Unlikely for Six Months. Kettleman Output Reduced to Allowable

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., Nov. 2.—Crude oil production in California registered a fairly substantial decline during the past week due principally to the shutting in of the Superior's No. 3 Huffman, a recent completion at Kettleman Hills flowing 10,000 bbls. per day, and No. 14 Bell Luton, the Barnsdall and Rio Grande's deep zone discovery well in the Elwood Field of Santa Barbara County. The crude oil situation is in a very satisfactory condition, as state production has been within striking distance of the 500,000-bbl. mark, but the marketing situation, on the other hand, has been exceptionally weak. Intense competition among the independent group of refiners has severely depressed the gasoline price level and there has been an utter lack of any attempt to stabilize prices during the past several weeks.

The existing weakness in the refined oil market can be attributed primarily to the so-called "net realization" contracts and "co-ordinated price schedules" adopted last year by several independent refiners. Under the terms of these crude oil purchase contracts, the producer is paid on the basis of the net realization from refined oil sales or on the basis of a price schedule co-ordinated with the tank wagon price of gasoline. Refiners having these types of contracts are therefore not overly particular as to the maintenance of a stabilized price for gasoline because the producer is the goat in the long run anyway. Theoretically, these types of crude oil purchase contracts are fundamentally sound on the economic law that the raw product is not worth any more than the value of products manufactured therefrom, but serious abuses have occurred in the name of competition. These disturbing factors, together with the refusal of receivers in equity to adopt a constructive policy, are preventing a recovery and normal adjustment on the Pacific Coast.

Important Decision

When Judge Lambert rendered a judgment for $24,000 in favor of Dave Martin of Bakersfield against the United Oil Co., he concluded a suit which is one of the first of its kind in California and one which may perhaps establish a legal precedent for future application. According to the complaint, the plaintiff held a government prospecting permit for the northwest quarter of Section 34-27-27, located between the Kern front and the Mount Poso Field of Kern County. This permit he sold to the United Oil Co. for a specific cash consideration and a royalty on production with the proviso that the defendant maintain the permit or keep it alive by drilling operations. The plaintiff charged that these conditions were not complied with and that the permit was consequently allowed to lapse. The plaintiff sued for damages and his attorney successfully contended that the damages should be based on the value of the land at the time the transaction was consummated. If Judge Lambert is sustained on appeal, it may form the basis for future similar litigation.

Elwood

With the shutting in of No. 16 Bell Luton, the Barnsdall and Rio Grande's deep zone discovery in the Elwood Field of Santa Barbara County, the possibility of a competitive drilling campaign was definitely removed. Operators in that field have tentatively agreed to refrain from any development work involving the recently discovered Sespe zone for a period of six months, or until there is a demand for increased production in California. In other words, no future development work will be undertaken in this field until May unless there is an underproduction throughout the state, which does not seem probable at present. In accordance with this agreement, the preparations which had been under way to redrill and deepen the Pacific Western Oil Co.'s well No. 1 on tideland permit No. 92, and the Elwood Exploration Co.'s well No. 1 on tideland permit No. 90, have been suspended. The Bankline Oil Co., which recently started a new well, has agreed to take this project, No. 5 on tideland permit No. 89, down only to the Vaqueros formation at present. Nos. 19 and 20 of the Barnsdall and Rio Grande, both originally scheduled for completion in the new zone recently discovered in the Sespe formation, have been suspended. In addition to this constructive movement, which will retard development work in the Elwood Field until conditions improve, there is a possibility that future development work in this field may be unified along lines similar to the unit operation now in effect at Kettleman Hills.

Kettleman Hills

With the shutting in of the Superior Oil Co.'s No. 3 Huffman, a recent completion brought in flowing 14,000 bbls. per day, daily production of the Kettleman Hills Field was reduced to its pegged allowable of 60,000 bbls. per day. On October 25 the daily production of this field was reduced to 54,168 bbls., but rebounded to the maximum allowable of 60,000 bbls. per day on October 28. The Standard has not yet completed its No. 65-29-J, but should do so within a few days as everything is in readiness for the delayed production test on this well. The Kettleman North Dome Association is starting a new well in Section 2-22-17, and this project, No. 61-2-P, should be spudded during the next three weeks. The association's No. 4-28-J, now rotating at 8,325 feet, should be completed during the middle of November and this potential producer should be followed into production by No. 25-28-J, shortly thereafter.

The North American Consolidated has recovered from the mechanical trouble which developed in No. 1 Blauvelt at 8,907 feet and is cleaning out the hole preparatory to resuming work. The Petroleum Securities' No. 1 Burbank, in the Middle Dome of Kettleman Hills, is still making hole and from present indications will be carried down to the 9,000-foot level before a production test is made, unless something unforeseen develops. The Kettleman North Dome Association is taking steps to effect a revision if possible in the minimum price basis for crude oil, natural gas and natural gasoline established by the Department of the Interior. Secretary Wilbur has placed an arbitrary value on the government royalty oil well in excess of the posted price, thus penalizing producers who are receiving the posted price for all oil, including government royalty oil sold to pipe line companies. For heavy crude, the Department of the Interior expects to receive 89 cents per barrel, compared with the prevailing posted price of 65 cents per barrel. On light oil from the upper zone, the department wants 89 cents, compared with a posted price of 76 cents. For dry gas prevailing prices range from 3½ to 7 cents per thousand feet, compared with a value of 5 cents established by the department. The price set by the department for natural gas is of particular interest in view of the fact that a substantial quantity of natural gas in Kettleman Hills has been injected in wells of the Honolulu Consolidated Oil Co. in the Midway-Sunset Field of Kern County. This brings up a rather perplexing question because if this natural gas is ultimately recovered the Government will be in a position to collect a double tax when it is again brought to the surface. This question has not been definitely settled and may possibly be adjudicated to the mutual benefit of all concerned, especially because the Kettleman Hills gas was injected in the Midway-Sunset Field to reduce the waste of natural gas and at the same time stimulate the production of crude oil on the Honolulu's leases, which properties are in Naval Reserve No. 2 and consequently government property.

Lost Hills-Belridge

The Belridge Oil Co. found it necessary to kill its No. 49-35, a recent completion in the North Belridge Field of Kern County flowing 3,540 bbls. per day from 5,595 feet, because of a defective water shutoff. This well failed to clean up and a survey has indicated the probability that too much penetration was taken and bottom water encountered. It is the present intention to plug back by stages in order that no more of the producing formation will be cemented off than is absolutely necessary. The substantial production shown by this well proved a big surprise as it offsets the Continental's No. 2 Result and the Union Oil Co.'s No. 17 Belridge, both making less than 400 bbls. per day. General Petroleum's No. 1 Berry in the South Belridge Field has not yet encountered the top of the Temblor and there is no way of ascertaining by correlation work just how soon this goal may be reached. Over 7,200 feet of brown shale has already been penetrated. In the Lost Hills Field, General Petroleum is redrilling its No. 1,301 in Section 13-26-20 and it will probably be two or three weeks before the hole is cleaned out to bottom, 4,399 feet. Lincoln Petroleum Co.'s No. 1-A Theta, another Temblor test in the Lost Hills Field, is standing recemented at 5,328 feet, but should be drilled out some time within a few days.

Round Mountain

The Shell, Chanslor-Canfield Midway Oil Co. and Petroleum Securities have resumed partial production in the Round Mountain Field of Kern County, following a suspension of work early last year. The completion of a 6-inch pipe line by the Golden Bear Oil Co. from Round Mountain to a railroad siding near Oildale was the occasion for the resumption of production activities. During the early part of the past week the Shell Oil Co. recompleted No. 1 Caldwell in this field pumping 625 bbls. of exceptionally clean 16.6 gravity oil per day from 1,672 feet. This well has been standing shut in for more than a year due to state-wide curtailment work and only required a clean-out job to put it back on production. The Golden Bear Oil Co. started moving oil out of the Round Mountain Field early in October and ultimately forced the Shell, Petroleum Securities and Chanslor-Canfield Midway Oil Co. to resume production. Crude oil from the Golden Bear's property at Round Mountain is being moved from Oildale to Arizona by tank car where it is used as fuel oil.

Osborn & Colter put their No. 2 Duff, in the Weed Patch Field of Kern County, on a production test at 1,952 feet, but it pumped off in a few hours, indicating the inability of this shallow sand to produce commercially. This heavy oil zone was not tested out by the Shell Oil Co. in its exploration work in this field last year as core samples did not reveal the existence of a sufficient amount of oil sand to justify a production test. The Weed Patch Field, discovered by the Shell in June, 1930, has been inactive following conclusion of the deep test drilled in that area several months ago. The company definitely proved up one oil zone as commercially productive, but is retarding development work until there is a demand for this oil. The Milham Exploration Co. is plugging back No. 1 Crites in the Buttonwillow gas field of Kern County, following an unsuccessful water shutoff at 3,190 feet. The bottom of this hole is at 3,527 feet, but this will be plugged back about 75 feet. This well failed to develop commercial gas production in the upper gas zone and was deepened to this new deep gas zone several weeks ago. The Graham & Loftus Oil Co. has reached a depth of 3,725 feet in No. 1 Carmel, a wildcat being drilled in the Buttonwillow area in Section 20-27-22, but no encouraging showings have been encountered.

Ventura Avenue

It has been several weeks since a new well has been completed in the Ventura Avenue Field, but a check of development work under way indicates the probable completion of one or two wells dur-

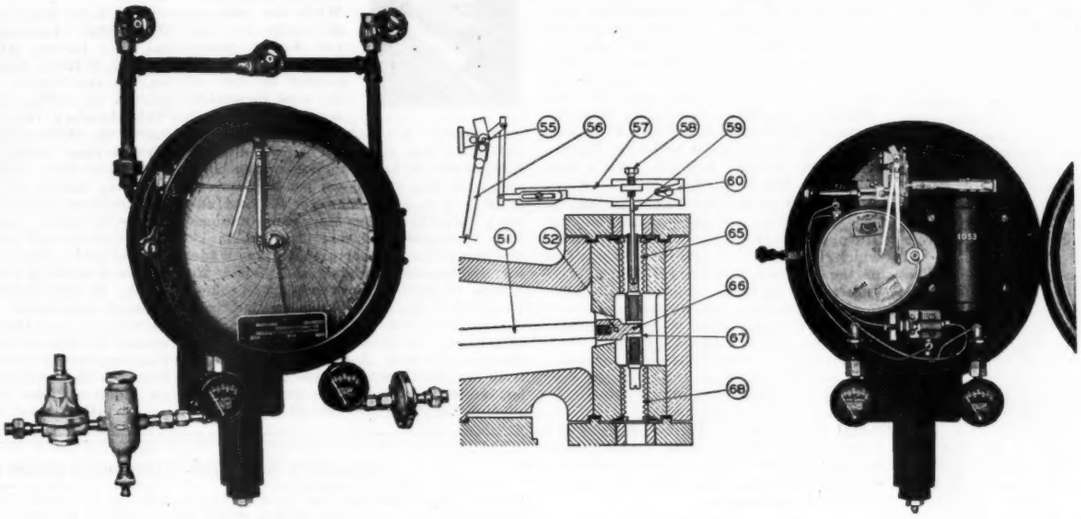
TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Crude oil	.....	.....	.....	.....	.....	68,696
Fuel oil	.....	.....	.....	.....	.....	71,950
Diesel and gas oil	33,310	17,770	.....	.....	1,473,198	2,854,370
Gasoline	72,398	10,743	220,360	31,480	11,332,062	16,318,224
Kerosene	.....	.....	.....	.....	187,934	.....
Coastwise—						
Crude oil	485,578	69,368	216,356	30,908	18,138,383	13,098,614
Fuel oil	255,659	36,526	148,063	21,152	10,786,137	14,772,963
Diesel and gas oil	16,490	2,213	5,555	794	1,250,455	1,404,629
Gasoline	239,097	34,157	347,497	49,642	11,630,949	10,390,959
Kerosene	13,140	1,877	7,974	1,139	267,382	151,436
Naphtha distillates	.....	.....	.....	.....	4,952	.....
Exports—						
Crude oil	138,617	19,802	9,985	1,426	6,013,442	5,702,251
Fuel oil	259,571	36,796	341,519	48,788	11,163,985	14,842,343
Diesel and gas oil	151,097	21,585	5,860	837	3,015,941	3,860,666
Gasoline	5,042	720	135,470	19,353	7,106,739	13,563,378
Kerosene	.....	.....	74,869	10,696	1,396,048	3,085,709
Lubricants	.....	.....	.....	.....	36,353	27,434

TANKER SHIPMENTS, SAN FRANCISCO TO ATLANTIC AND GULF COAST PORTS

Diesel and gas oil	.....	.....	.....	.....	.....	279,088
Gasoline	.....	.....	.....	.....	883,929	1,080,671
Lubricants	.....	.....	.....	.....	35,236	27,796
Coastwise—						
Fuel oil	58,061	8,294	120,046	17,149	2,929,039	2,746,972
Diesel and gas oil	4,259	608	.....	.....	350,919	310,223
Gasoline	93,529	13,361	135,606	19,372	3,738,096	3,662,066
Kerosene	7,130	1,019	3,813	545	266,224	194,883
Naphtha distillate	.....	.....	.....	.....	49,780	.....
Exports—						
Crude oil	60,657	8,665	.....	.....	330,249	59,993
Fuel oil	42,881	8,983	.....	.....	1,348,607	866,296
Diesel and gas oil	.....	.....	.....	.....	482,708	457,589
Gasoline	70,175	10,025	73,165	10,452	3,757,305	3,406,476
Kerosene	.....	.....	95,480	13,637	783,732	557,170
Lubricants	.....	.....	.....	.....	25,693	33,579

No Pressure-Tight Bearings in TAG Flow Instruments



TO transmit the flow movement from inside the manometer pressure chamber, which is at pipe line pressure, to the recording pen outside, which is under atmospheric pressure, without friction or leakage, is a problem to which has probably been given more attention in flow instrument design than any other.

The diagram above (in the center) shows the ingenious solution by which TAG design overcomes this stumbling block to accurate flow measurement and control.

The lever 51, which transmits the vertical movement of the float, engages yoke 67. This yoke is supported in position by two bellows, 65 and 68, one at each end. These bellows, being identical, are equally affected by pressure changes inside or outside the pressure chamber, and balance each other so that such pressure changes can cause no movement of the yoke. At the same time they allow the yoke to move without restriction up or down as the float falls or rises. The yoke extends through the inside of the upper bellows 65, enabling its motion to be communicated to the pen leverage system by pin 59.

Entire elimination of friction and the utter absence of any opening through the pressure chamber, which is sealed from the atmosphere, are exclusive TAG Flow Instrument features, making possible the full utilization of float movement in moving pen and removing every possibility of leakage.

Send for Catalog No. 1020-50, completely describing the: TAG Flow Recorder-Controllers for Liquids — TAG Flow Meters and TAG Orifice Meters for Gases — TAG Flow Recorder-Controllers for Gases — TAG Liquid Level Recorder-Controllers.

C. J. TAGLIABUE MFG. CO.
Park and Nostrand Avenues, Brooklyn, N. Y.

TAG FLOW
INSTRUMENTS

ing November. There are only nine strings of tools in operation in the Ventura Avenue Field and neither the Associated nor Shell are making preparations to undertake additional drilling. The latter company has only one incompleted drilling project under way and this well, No. 68 Taylor, should be tanking oil shortly and consequently conclude the company's present program. The Associated has seven wells under way, but this will be reduced very substantially by the completion of new wells during the next 60 days. The Superior Oil Co. has drilled 4,314 feet of hole and landed a string of pipe in 28 days in No. 6 Hartman, which the company is drilling in the Ventura Avenue Field for the Bolsa Chica Oil Co. This fast footage has been made possible through the utilization of a 132-foot derrick and heavy drilling equipment.

The Ohio Oil Co. failed to secure commercial gas production in No. 1 Oakley, a wildcat being drilled in the Goleta area of Santa Barbara County, and preparations are being made to resume drilling at 4,781 feet. This wildcat, located on property adjoining the General Petroleum's More lease, does not offer much encouragment as the General Petroleum failed to find anything of interest after passing through the gas zone in one of its deep wells on the More ranch. The General Petroleum has finished two gas wells on the More lease, each capable of producing approximately 10,000,000 feet of dry natural gas per day. No 3 More, the deep test, was carried to 6,912 feet in search of oil production, but will be plugged back to the commercial gas zone in the near future. In the Santa Maria area, the Western Gulf Oil Co. has reached 7,850 feet in No. 1 Bradley but has not yet logged any favorable indications. Continental Oil Co. is still held up with mechanical trouble in No. 3 Grubb, a wildcat in the San Miguelito section of Ventura County, which more definitely is situated about midway between the Rincon and Ventura Avenue Fields, but an early recovery is anticipated.

Huntington Beach

The Superior Oil Co. is still drilling ahead in No. 1 Eberly, a deep test in the Huntington Beach town lot section, and this work may bear watching during the next few weeks. Additional weight material was pumped into this hole and there is considerable gas in evidence, coming perhaps from the bottom of the hole at 8,900 feet. This is the deepest test drilled in the Barley Flats town lot section of the Huntington Beach Field up to the present time. W. E. McCaslin has not yet given up the attempt to develop deep production in his No. 17 Transport, bottomed at 8,365 feet, notwithstanding that the outlook is distinctly discouraging. It is apparent that the Union and Shell expect to maintain a small but consistent development campaign in the Dominguez Field during the next several months. This work is going along slowly, however, and will therefore not interfere with state-wide curtailment.

The Baldwin Hills Syndicate has staked location for a new deep test to be drilled on the Sentous property in the Inglewood Field and since rig material is already on ground an early spud may be anticipated. This property was originally tested out by the Pan American Petroleum Co. several years ago with negative results, but the new holder of this lease feels it justifies further exploration. No production has been developed on this property up to the present as it appears to be located just outside the productive limits of the Inglewood Field. The possibility of developing deep production may justify development, but from present indications there should not be room for more than one or two wells at most. The Vaqueros Major Oil Co. has spudded in its first well on tideland permit No. 194 adjoining the Bolsa Gun Club property north of the Huntington Beach Field and the bit is already down 600 feet. Validation work on this tideland permit was completed late last year.

In the West Coyote Field the Standard is working on three wells on the Murphy Coyote property, the deepest of which is 2,210 feet. Drilling operations in the Potrero Field are reflecting the uncertainty over the ability of this field to show sustained commercial production and will probably show no great change during the next few months. Beloil Corp.'s No. 1 Coffin is flowing 340 bbls. of clean 37.5 gravity oil from the recently discovered deep zone at 6,508 feet and this company is negotiating to take over Universal Consolidated's No. 1 Sloan preparatory to carrying it down to this same horizon. It remains to be seen, however, whether this zone will ultimately justify additional exploration.

CANNOT REFUND TAXES

The gasoline collection department in Nebraska on advice of the state's attorney general has ruled that the gasoline tax cannot be refunded in cases where the gasoline is lost through vandalism. The case was brought to the attention of the state collection department by a jobber whose gasoline storage tanks were opened and a large quantity of gasoline lost. The state tax of 4 cents per gallon had already been paid.

J. A. BUIE DIES

James A. Buie, 54, Fort Worth, Tex., oil operator, died suddenly last week. At one time he was trustee of the Burk Twin Pool Oil Association, the Burk Allies Oil Association and the Burk Middle Dome Oil Association; president of the Burk Guaranty Oil Co. and owner of the Worth-Tarrant Oil Co. In 1918 he organized the Acme Oil Co.

HUDSON'S BAY KEHO LAKE TEST LOOKS LIKE COMMERCIAL PUMPER

By Victor Laurkton
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Nov. 2.—In the Keho Lake district of Southern Alberta, Hudson's Bay Oil & Gas Co.'s No. 1 Keho, LSD 2, Section 17-11-22w4, encountered a strong show of oil and gas at the Ellis-Madison contact at 4,925 feet. While the value of the strike has not yet been determined, it is regarded as one of the most important developments yet encountered in the border fields.

Drilling was continued 5 feet into the lime, when oil began to rise in the hole, and work was shut down pending arrival of R. Van A. Mills, manager of the Hudson's Bay Oil & Gas Co., from Edmonton. A control head was installed, tankage provided and other preparations made for drilling into production. Some 25 bailers of light green crude were taken from the hole, after which bailing was discontinued. The oil rose about 750 feet in the hole. It is stated to be around 33 gravity, or better. A small water seepage from the Sunburst sand was mudded off, but no water trouble has yet developed at the Ellis-Madison contact. The gas flow is estimated between 750,000 and 1,000,000 feet a day. The crude is similar to that of the Kevin-Sunburst and Red Coulee Fields.

The 8-inch casing will probably be lowered for water shut off in the Sunburst before deepening the hole in the lime, so a complete production test may be delayed for some days. The well looks like a fair commercial pumper as it stands.

The Keho Lake area is not far from Lethbridge. Leasing for oil was carried on by a Barons, Alberta, syndicate who organized Keho Lake Oils, Ltd., as long ago as the Calgary excitement of 1914, though no drilling was done at that time. The Hudson's Bay Oil & Gas Co., formerly the Hudson's Bay-Marland Oil Co., first became active in the Keho Lake area more than a year ago. The present test was started in April, 1930, and has been drilling pretty steadily since. In the upper horizons there was some trouble with caving, and the test had to be cemented back several times. At 3,680 feet a strong show of crude was encountered in the Benton shales, and at 3,776 feet a small commercial production, the two showings in the Bentons being estimated around 70 bbls. a day of 32.6 crude. This was temporarily shut off and drilling continued with the Ellis-Madison contact as an objective. The Hudson's Bay Oil &

(Continued on Page 81)

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.	T.	R.	Depth	Status
Hirea Pet., No. 1 Ocean Park, Los Angeles Co.	9-	2-	15	7,350	cemented
Taylor Oil Co., No. 1 Culver, Los Angeles Co.	12-	2-	15	6,238	suspended
Westwood Oil Co., No. 2 Hermosa, Los Angeles Co.	6-	4-	14	2,151	suspended
Baxter Pet., No. 1 Hermosa, Los Angeles Co.	5-	4-	14	rig	suspended
Staple Oil Co., No. 1 Manhattan, Los Angeles Co.	24-	3-	15	2,700	suspended
Pacific Shore Oil Co., No. 1 Lawndale, Los Angeles Co.	20-	3-	14	rig	suspended
Smith, J. O., No. 1 Lawndale, Los Angeles Co.	20-	3-	14	rig	suspended
Wilmington Consd., No. 1 Watson, Los Angeles Co.	17-	4-	13	1,012	suspended
Ranger Pet. Co., No. 1 Watson, Los Angeles Co.	28-	4-	13	rig	suspended
Pedro Pet. Corp., No. 1 San Pedro, Los Angeles Co.	14-	5-	14	rig	suspended
Brubaker, W. O. No. 1 Van Nuys, Los Angeles Co.	11-	2-	15	2,700	suspended
Rucker & Croul, No. 2 Puente, Los Angeles Co.	27-	2-	10	2,200	suspended
El Dorado Oil Co., No. 1 Puente, Los Angeles Co.	20-	2-	9	2,148	br. sh. drilling
Cudahy Oil Co., No. 1 Bell, Los Angeles Co.	30-	2-	12	1,370	suspended
Jones, W. L., No. 1 Bell, Los Angeles Co.	31-	2-	12	116	sd. drilling
Weist Oil Co., No. 1 Montebello, Los Angeles Co.	34-	1-	11	4,902	idle
Blinn & Gray, No. 1 Montebello, Los Angeles Co.	6-	2-	11	5,030	hd. sd. drilling
Yellowstone Oil Co., No. 1 Alhambra, Los Angeles Co.	24-	1-	13	3,919	suspended
Yellowstone Oil Co., No. 2 Alhambra, Los Angeles Co.	19-	1-	12	2,015	fishing
Rucker, L. W., No. 1 Calabasas, Los Angeles Co.	26-	1-	17	1,004	br. sh. drilling
Caballero Estates, No. 1 Calabasas, Los Angeles Co.	23-	1-	16	1,260	cemented
Olympic Corp., No. 1 Calabasas, Los Angeles Co.	18-	1-	17	5,960	suspended
Simi Oil Co., No. 1 Calabasas, Los Angeles Co.	18-	1-	17	2,906	sd. sh. drilling
Marble, Willard, No. 1 Chatsworth, Los Angeles Co.	6-	2-	16	670	hd. sd. drilling
Superior Oil Co., No. 1 Newport, Orange Co.	27-	6-	10	3,060	sd. sh. drilling
Ajax Pet., No. 1 Newport, Orange Co.	21-	6-	10	5,650	hd. sd. drilling
Vaqueros Major, No. 1 Tideland, Orange Co.	32-	5-	11	511	sd. drilling
Beck, Alfred, No. 1 Corona, Riverside Co.	8-	4-	6	1,110	suspended
Alberta Oil Co., No. 1 Elsinor, Riverside Co.	35-	2-	2	3,435	suspended
Duncan, N. L., No. 1 Sagebrush, Riverside Co.	8-	4-	6	1,157	suspended
Colan Dev. Co., No. 1 Redlands, San Bernardino Co.	25-	1-	2	2,392	redrilling
Mason Oil Co., No. 1 Salton Sea, Imperial Co.	1-	17-	15	615	sd. sh. drilling
Borderland Oil Co., No. 1 Encinitas, San Diego Co.	12-	13-	4	2,519	suspended
Borderland Oil Co., No. 1 Point Lomas, San Diego Co.	30-	16-	2	5,124	suspended
South Bay Oil Co., No. 1 Border, San Diego Co.	31-	18-	2	1,243	suspended
Itasca Pet. Co., No. 1 Mesa, San Diego Co.	32-	18-	1	1,570	fishing
Carr, O. K., No. 1 Capistrano, San Diego Co.	13-	6-	5	5,250	suspended
Oklahoma Oil Corp., No. 1 Palma, San Diego Co.	25-	11-	8	510	redrilling

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.	T.	R.	Depth	Status—
Western Gulf, No. 1 Santa Maria, Santa Barbara Co.	5-	9-	35	7,850	br. sh. drilling
Midwest Oil Co., No. 1 Los Alamos, Santa Barbara Co.	2-	7-	35	3,450	suspended
Ohio Oil Co., No. 1 Goleta, Santa Barbara Co.	16-	4-	28	4,782	testing
General Pet., No. 1 Goleta, Santa Barbara Co.	21-	4-	28	4,533	gas, shut in
General Pet., No. 2 Goleta, Santa Barbara Co.	21-	4-	28	4,350	gas, shut in
General Pet., No. 3 Goleta, Santa Barbara Co.	21-	4-	28	6,912	plug 6,625 ft.
General Pet., No. 133 Goleta, Santa Barbara Co.	21-	4-	28	2,030	suspended
General Pet., No. 134 Goleta, Santa Barbara Co.	21-	4-	28	2,053	suspended
General Pet., No. 136 Goleta, Santa Barbara Co.	21-	4-	28	2,047	suspended
General Pet., No. 137 Goleta, Santa Barbara Co.	21-	4-	28	2,050	suspended
General Pet., No. 138 Goleta, Santa Barbara Co.	21-	4-	28	4,931	suspended
General Pet., No. 139 Goleta, Santa Barbara Co.	21-	4-	28	2,051	suspended
Bowles Oil Co., No. 140 Goleta, Santa Barbara Co.	21-	4-	28	2,065	suspended
U. S. Pet., No. 141 Goleta, Santa Barbara Co.	20-	4-	28	2,004	suspended
U. S. Pet., No. 142 Goleta, Santa Barbara Co.	20-	4-	28	2,012	suspended
U. S. Pet., No. 143 Goleta, Santa Barbara Co.	20-	4-	28	2,010	suspended
El Camino, No. 149 Goleta, Tideland, Santa Barbara Co.	22-	4-	28	2,010	suspended
Bellview Oil Co., No. 159 Goleta, Santa Barbara Co.	24-	4-	29	2,099	suspended
Cochran, J. H., No. 1 Naples, Santa Barbara Co.	7-	4-	29	5,134	suspended
Strickland & Tippett, No. 1-A Goleta, Santa Barbara Co.	19-	4-	27	4,886	suspended
Sovereign Oil Co., No. 1 Guadalupe, Santa Barbara Co.	20-	10-	35	5,500	suspended
Pacific Western, No. 1 Gibraltar, Santa Barbara Co.	14-	5-	27	2,345	suspended
Associated, No. 1 Rincon Creek, Ventura Co.	19-	4-	24	2,080	suspended
Continental, No. 1 Rincon, Ventura Co.	23-	3-	24	6,640	fishing
Bell, H. H., No. 1 South Mountain, Ventura Co.	22-	3-	21	930	sd. sh. drilling
Pure Oil Co., No. 1 S. F. Canyon, Ventura Co.	15-	4-	21	2,591	suspended
San Pedro Oil Co., No. 2 Sespe, Ventura Co.	13-	4-	21	3,575	reaming
Magu Synd., No. 1 Oxnard, Ventura Co.	17-	1-	21	5,225	may abandon
Mex Cal Oil Co., No. 1 Conejo, Ventura Co.	12-	1-	20	240	suspended
Graham & Loftus, No. 1 Goose Lake, Kern Co.	20-	27-	22	3,725	sd. sh. drilling
Wilshire Oil Co., No. 1-A Buttonwillow, Kern Co.	7-	29-	24	7,000	suspended
Milham Expl. Co., No. 6 Buttonwillow, Kern Co.	8-	28-	23	3,527	plug bottom
Calif. Oil Producers, No. 2 McKittrick, Kern Co.	30-	30-	22	6,660	to abandon
Purman, T. H., No. 1 McKittrick, Kern Co.	22-	29-	21	501	suspended
Federal Drlg. Co., No. 1 Buena Vista, Kern Co.	20-	31-	24	5,367	suspended
General Pet., No. 1 Belridge, Kern Co.	30-	28-	21	7,130	br. sh. drilling
Wallace, K. C., No. 1 Belridge, Kern Co.	32-	29-	21	4,222	suspended
Rio Cal Pet., No. 1 Shale, Kern Co.	2-	27-	18	2,355	suspended
Wicker, Sy., No. 1 Arvin, Kern Co.	12-	30-	28	3,803	suspended
Shell, No. 1 Weed Patch, Kern Co.	29-	30-	29	5,910	suspended
Osborn, Colter, No. 1 Weed Patch, Kern Co.	15-	30-	29	3,485	suspended
Osborn, Colter, No. 2 Weed Patch, Kern Co.	15-	30-	29	2,000	testing
Fullerton Oil Co., No. 1 Semitropic, Kern Co.	21-	27-	23	....	core hole
Standard, No. 1 Devils Den, Kern Co.	14-	25-	18	1,600	suspended
Cumberland Oil Co., No. 2 Devils Den, Kern Co.	21-	26-	18	2,950	suspended
Signal Oil Co., No. 1 Blackwell Corner, Kern Co.	15-	26-	19	106	tech. spud
United Kern Pet., No. 1 Mojave, Kern Co.	26-	10-	14	1,065	suspended
Meridian Oil Co., No. 1 Mojave, Kern Co.	11-	9-	15	3,910	hd. sd. drilling
Kendall Dev. Co., No. 1 Mojave, Kern Co.	27-	11-	9	765	hd. sd. drilling
Harding, J. B., No. 1 Mojave, Kern Co.	5-	10-	10	1,030	redrilling
Ritchie, J. J., No. 1 Tejon, Kern Co.	33-	11-	19	6,025	suspended
Associated, No. 1 Jacalitos, Fresno Co.	22-	21-	15	6,197	suspended
Kingsburg Expl. Co., No. 1 Kingsburg, Fresno Co.	30-	16-	23	rig	rigging up
Panorama Oil Co., No. 1 Carrizo, San Luis Obispo Co.	7-	31-	21	4,019	suspended
Kent & McDonald, No. 1 Carrizo, San Luis Obispo Co.	3-	32-	22	2,230	br. sh. drilling
Trav-El Oil Co., No. 1 Carrizo, San Luis Obispo Co.	7-	32-	22	2,450	suspended
Paso Robles Synd., No. 1 Paso Robles, San Luis Obispo Co.	34-	27-	11	4,040	suspended
C. Coast Inv. Co., No. 1 Atascadero, San Luis Obispo Co.	1-	28-	12	1,040	br. sh. drilling
Schilling, Co., No. 1 Atascadero, San Luis Obispo Co.	24-	28-	12	1,475	suspended
Pacific Inland, well No. 1, Monterey Co.	19-	23-	15	1,900	sd. sh. drilling
Brown, W. F., No. 1 Parkfield, Monterey Co.	15-	23-	14	1,051	suspended
Guess, W. G., No. 1 Monocline, Kings Co.	7-	21-	21	4,620	resume work
Lacal Gas Co., No. 1 Dudley Ridge, Kings Co.	32-	22-	20	rig	rigged up
Irma Investment Co., No. 1 Dudley Ridge, Kings Co.	7-	23-	20	1,345	gas well, idle
O'Donnell, J. E., No. 1 Dudley Ridge, Kings Co.	7-	23-	20	1,635	gas well, idle
Eagle Oil Co., No. 1 Dudley Ridge, Kings Co.	15-	23-	20	411	sd. drilling
Kettleman Lakeview, No. 1-A Dudley Ridge, Kings Co.	20-	23-	20	1,170	gas well, idle
Valley Expl. Co., No. 1 Dudley Ridge, Kings Co.	12-	23-	19	1,287	redrilling
Valley Expl. Co., No. 2 Dudley Ridge, Kings Co.	12-	23-	19	1,090	cemented
Knudsen & Schmidt, No. 1 Reef Ridge, Kings Co.	36-	22-	17	4,315	testing W.S.O.
Seymour, L. W., No. 1 Avenal, Kings Co.	10-	23-	16	1,148	suspended
Twin State Oil Co., No. 1 Point Arena, Mendocino Co.	14-	12-	17	7,700	fishing
Orinda Pet., well No. 1, Contra Costa Co.	32-	1-	3	2,120	suspended
Tulaco Oil Co., No. 1 Corcoran, Tulare Co.	17-	22-	22	....	material
Ducor Pet. Co., No. 1 Ducor, Tulare Co.	14-	24-	27	2,300	suspended
Inland Valley Oil Co., No. 1 Visalia, Tulare Co.	24-	17-	24	2,092	suspended
Ellis & Stanford, No. 1 Tulare Lake, Tulare Co.	20-	24-	23	1,906	sd. sh. drilling
Colusa Oil Co., No. 1 Bush, Colusa Co.	31-	15-	4	970	hd. sd. drilling
Oakdale Oil Co., No. 1 Oakdale, Stanislaus Co.	3-	2-	10	4,220	hd. sd. drilling
Orland Oil Synd., No. 1 Orland, Tehama Co.	31-	23-	3	3,040	suspended

Central West Increases Development

Monclova Field in Western Lucas County Attracting Attention. Ten Completions in Central Ohio. Kentucky and Michigan Operations

By George A. Wh'tney
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Nov. 2.—There is a noticeable increase in development work in some divisions of the Central West Field and it looks as though considerable work will be accomplished before the hard winter season sets in. This activity was brought about by the running of all production from wells in the old Lima Field of northwestern Ohio. Lima crude is quoted at 90 cents a barrel and the running of all the crude from the field will help along the well owners as well as the royalty owners.

The Monclova Field in the western part of Lucas County and west of Toledo was visited by the writer during the past week, and the outlook is for additional development of that area on account of the report that the Buckeye Pipe Line Co. has made a survey for a line from the few wells there and will connect the gathering lines with the Imperial Pipe Line which runs from Cygnet, Ohio, to Sarnia, Canada. There are five 100-bbl. steel tanks on the D. T. Teft farm, practically full of crude. No. 1 on this farm is reported good for 30 bbls. a day and No. 2 for about 15 bbls., the oil coming from the Trenton lime at around 1,400 feet. These wells are owned by Dillon and McFredericks, well-known Central Ohio operators and residents of Lakewood, a suburb of Cleveland. Same firm has a 5-bbl. pumper on the Henry Butz farm, same area. M. Gray drilled a test to the top of the Trenton lime on the Keil Brothers' 100 acres, Section 28, Monclova Township, same county, and shut it down. It is said to be owned now by Attorney Webb of Toledo, who will no doubt complete it as soon as the pipe line is laid to convey the product to the Imperial Pipe Line Co.'s line. This field was opened by John Doblinger some time ago and is bound to be given a good test.

Henry County

In Henry County the Lake Shore & Southwestern Oil & Metal Co. drilled in a gas well showing 250,000 feet on the L. M. Jones farm, Section 5, Richfield Township.

In Wyandot County, Tymochtee Township, O'Neal and others have a dry hole on the Jacob Fruth farm, Section 7, and a light gas well from 1,347 to 1,355 feet on the John Neiderkoken farm, Section 1, Crawford Township, same county, from 1,337-48 feet. Temple & Kennedy report a dry hole on the Flaxonhead farm, in Tymochtee Township, same county, while McPeron, Cook and others report a gas well in No. 1 on the Bowman-Brillhart farm, Section 21, Tymochtee Township, same county.

In Shelby County, W. A. Rucker Oil Co.'s No. 3 on the P. Gaffena farm, Section 25, Cynthian Township, is reported good for 10 bbls. initial. This well is southwest of Lima.

In Darke County, Adrian Tester has a 1-bbl. pumper on the Charles Miller farm, Section 3, Mississinewa Township, and Lee Booth is drilling on the Walter Richardson farm, known on the map as the Landis farm, Section 7, same township.

Wiser Oil Co. is drilling Nos. 6 and 7 on the Grant Geiger farm, Section 13, Cessna Township, Hardin County. Lima Pipe & Supply Co. is reported to have abandoned the idea of drilling the test.

In Seneca County, Tiffin Field, and in Liberty Township, the Muncy Valley Oil & Gas Co. abandoned Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10 Jacob Kimmet farm, Section 28. Dora L. Shaull has a light gas well on her own farm, Section 35. McKinney Brothers found a light gas well in No. 2 R. M. Martin farm, Section 25. Neath & Geddis brought in two light gas wells, No. 1 Floy Bloomfield farm, and No. 2 on the Jack Ash farm, Section 26, all in Liberty Township. Byron Jones & Son are drilling No. 1 Jacob Ash farm, Section 6, same township. In Seneca Township, same county, Recovery Oil & Gas Co. drilled in a light gas well on the J. A. and G. H. Haines farm, Section 21, at from 1,427-31 feet, and expects to give it a shot in hope of increasing the gas volume. In Hopewell Township, same county, J. H. Murphy and others have a fairly good gas well in No. 4 Mary Fetuldig farm, Section 11.

Sandusky County

In Sandusky County, Scott Township, H. Bowe abandoned Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17 and 18 Reulif F. Bowe farm, Section 17. Jay Knauss abandoned Nos. 2 and 4 Selma Ryder farm, Section 18. Robert H. Stitt and others did the same with Nos. 10 and 14 Stitt, Pool & Sager farm, Section 4. D. L. Keiser pulled out No. 1 Jennings No. 2 farm, Section 6, and No. 1 G. W. Plantz farm, Section 6. George A. and John A. Willard abandoned Nos. 4, 7 and 9 James Klofenstein farm, Section 8; Nos. 1 and 7 J. C. Fisher farm, same section, and No. 8 C. J. Overmyer farm, Section 6, all in Scott Township.

In Hancock County, Portage Township, the Ohio Oil Co. abandoned No. 9 W. H. Roberts farm, Section 2; No. 11 J. E. Huntington farm, Section 20; No. 4 J. B. Bair farm, Section 31, and No. 12 C. Hillshafer farm, Section 35, same township. In Allen Township, same company abandoned Nos. 7, 28 and 39 P. Alexander farm. In Liberty Township, same company abandoned No. 31 Justice Chase, Section 10; Nos. 10 and 16 William Cusac farm, Section 5; No. 10 Peter Price farm, Section 11, and No. 8 William Reminger farm, Section 4. William M. Stitt and others pulled out Nos. 3, 5, 6 and 7 William Sawyer farm, Section 13, same township. In Liberty Township, L. Cramer's No. 4 Joe Ernst farm, Section 31, produced an initial of 20 bbls.

In Wood County, Plain Township, Murray B. Chidester abandoned No. 4 on the Case and Case farm, Section 26. In Bloom Township, the Ohio Oil Co. abandoned No. 1 William Bishop farm, Section 21, and No. 12 on the Solar Refining Co.'s property, Section 31, same township.

CENTRAL OHIO

Ten completions were reported from the Central Ohio Field proper, and an additional four wells brought in in Meigs County, making a total of 14 completions of which 3 were dry holes and 11 were gas wells, no oil wells being found being found.

In Ashland County, Milton Township, the Commonwealth Gas Corp.'s test on the D. A. Phillips farm, Section 15, Miltown Township, failed to find any sand and goes as dry hole. Same company is drilling on the C. C. Good farm, Section 15, Jackson Township, same county.

In Coshocton County, Newcastle Township, Hulse & Kundtz, Inc., is drilling No. 3 on the Frank G. Allen farm. Hopewell Gas Co. is drilling on the Charles F. Kreager farm, Section 33, Hopewell Township, Licking County.

In Muskingum County, Washington Township, the Ohio Fuel Gas Co. brought in a gas well in No. 1-5,551 on the H. A. Mangold farm, Section 11, in the Clinton lime formation at 3,921 feet. W. H. Athey's No. 5 on the W. H. Athey farm, in the first quarter section of Falls Township, same county, is a fairly good gas well at from 3,485 to 3,523 feet.

In Stark County, Paris Township, the Timken Roller Bearing Co. is shut down at a depth of 4,900 feet in No. 1 H. and M. Essig farm. Brendall and others made a location for No. 3 on the T. and F. Lesser farm, Section 12, Lawrence Township, same county. East Ohio Gas Co. has a nice gas producer in a second test on the H. B. Fawcett farm, Section 17, Jackson Township, same county, in the Clinton lime from 4,042 to 4,285 feet. Same company is drilling No. 2 John Strouble farm, Section 23, also made a location for No. 1 Earl Johnson farm, Section 15, and has a rig in for No. 2 on the same farm. Ohio Fuel Gas Co. is drilling No. 2 P. J. Bricker farm, Section 7, Jackson Township.

Fairfield County

In Fairfield County, Berne Township, the City Natural Gas Works' No. 2 W. M. and H. Brucker farm, Section 2, was dry in the Berea Grit sand at 583 feet.

In Knox County, Jackson Township, the Emerald Petroleum Co.'s test on the H. Hoagle farm, Section 25, was a dry hole from 591 to 603 feet.

In Guernsey County, George McLaughlin's test on the James Mehaffey farm, Section 11, Adams Township, is a very light gas well in the Berea sand from 1,095 to 1,102 feet. W. B. Urban and others struck a light gas well in a second test on the John Brock farm, Sections 13-14, in the Berea sand from 1,101-16 feet.

In Belmont County, Washmuth-Callahan Co.'s test on the S. P. Butler farm, Section 32, is an average gas producer in the Berea sand at a total depth of 1,903 feet. Peters, Purdy and others' No. 2 W. C. Wheatley farm, Sections 27-28, same township, is also an average gas well in the Berea sand from 1,953-69 feet. M. W. Fulton and others are drilling on the Sarah Hughes farm, Section 33.

In Gallia County, Cheshire Township, the Gallia Development Co.'s No. 2 Sallie Steenberger farm, Section 22, has a hole full of water in the Maxon sand from 210 to 244 feet.

In Carroll County four new wells are drilling, Eaton and others' No. 1 Nelson E. Slate farm, No. 1 Jennie Chase farm, in London Township, George W. Elliott and others' No. 1 H. G. Buchanan farm, same township, and in Center Township. Lisbon Oil & Gas Co. and others are working at No. 4 James M. Hanna farm.

In Columbiana County, Penn Crude Oil Co. is drilling on the H. and A. Miller farm, Section 5, Knox Township.

In Meigs County, Bedford Township, the Ohio Fuel Gas Co.'s No. 1-5,561 J. J. Lee farm, has a fair looking gas well in the Freeport sand from 485 to 527 feet. Same company has a gas well in No. 4-5,576 on the D. T. Cuckler farm, Section 36, Salisbury Township, same county, in the Maxburg sand. A. N. Bengel and others have a gas well in No. 1 Ernest Diehl farm, Section 35, same township, in the Maxon sand, from 843 to 877 feet. Scioto Oil & Gas Co.'s No. 1 Marinda J. Stevens farm, Section 1, same township, is a gas well in the Maxon sand from 867 to 892 feet. Same company is drilling No. 2 H. F. Johnson farm, same section. Doctor Gribble and others are drilling No. 1 Edgar H. and Nellie Morris farm, same section. John Mayer and others are drilling No. 3 Virginia Johnson farm, same section.

INDIANA

No completions were reported from any area of the Indiana Field, although a number of wells are nearing completion and others are shut down and will be completed later. Charles E. Jackson is drilling for gas on his lot in New-

(Continued on Page 65)

SOUTHEAST OHIO LEADS IN EAST IN NUMBER OF OIL COMPLETIONS

By Staff Correspondent

PITTSBURGH, Pa., Nov. 2.—Runs in the three districts of the eastern fields are gradually increasing since the lifting of the proration agreement among the Pennsylvania grade producers but have not yet attained the maximum allowed. With the natural decline in the old wells and the absence of any fresh production, which has been unsought during the period of overproduction, it is doubtful whether the peak of 1930 can be reached. This is held especially true of the upper country, the Bradford, Pa., and Allegany, N. Y., districts, where repressuring of the sands by water is being used, and although the production is back above the 35,000 bbls. a day mark, additional drilling is needed and being done to regain the former peak.

In the eastern fields during the past week 12 gas wells, 5 oil producers, with an initial production of but 36 bbls., and 4 dry holes were reported. There was but one gasser good for 1,000,000 feet a day.

SOUTHEAST OHIO

Southeast Ohio continues to lead in new oil completions with four new wells, all in the shallow sands of Medina County. Here E. R. Edson & Son Co. completed three more producers on well-proven and very productive leases. In Lot 20, Section 16, Chatham Township, on the Morris A. and Eva Franks farm, they completed their No. 28 at a depth of 471 feet which produced 6 bbls. the first day after shot. In Lot 4, Section 13, same township, their No. 22 on the George W. Packard No. 1 lease was good for 3 bbls. a day after shot from a depth of 390 feet. On the same farm their No. 23 was drilled to a depth of 386 feet and is showing for 5 bbls. a day after shot. The Preston Oil Co. completed No. 14 on the E. F. and A. R. Clapp farm, Lot 5, Section 16, Chatham Township, at a depth of 453 feet. It made 10 bbls. the first 24 hours after shot.

The Wehrle Co.'s test on the C. F. Kreager farm in Lot 33, Hopewell Township, Licking County, which was previously reported, found the pay at a depth of 2,550 feet or the Lime sand. No showing of oil accompanied the flow which is rated at 500,000 feet a day. In Coshocton County, the Murphy Petroleum Co. drilled No. 5 on the Wheeler Mossholder farm in the northwest quarter of Section 15, Perry Township. It was drilled through the Clinton sand and to a depth of 3,204 feet. There was a very light showing of oil and gas but not enough to justify operation and the well was plugged and will be abandoned.

Vinton County has become active again in the search for gas, and this week two tests were completed. In Section 35, Brown Township, the Kelch Brothers drilled a test on the W. Dwyer farm in the Grit at a depth of 1,003 feet. It is a fair well showing for 700,000 feet a day. In the same township but Section 29, on the W. Dwyer farm, formerly the Rachel Easterling, Donahue and others drilled a

(Continued on Page 65)

Personal Paragraphs About Oil Men

Rupert T. Ricker, of Ricker & Dodson, San Angelo, Tex., has been looking over Southwest Texas.

* * *

Harry Nolan, Nolan Sales Corporation, has gone to East Texas on a business trip.

* * *

V. C. Fuller, purchasing agent of the Gypsy Oil Company, Tulsa, spent last week in the East Texas fields.

* * *

Philip S. Graver, vice president in charge of sales, Graver Tank & Manufacturing Corporation, East Chicago, Ind., was a visitor to Tulsa recently.

* * *

D. J. Harrison, president of the Harrison Oil Company, Houston, Tex., is spending a short vacation at Mineral Wells, Tex.

* * *

E. W. Clark, of the United States Oil & Royalty Company, has been elected president of the California Royalty Owners' Association of Los Angeles.

* * *

John M. Crawford, of the Parkersburg Rig & Reel Company, Parkersburg, W. Va., is visiting the district offices in Tulsa.

* * *

A. E. Butts, of the Tulsa branch of the A. O. Smith Corporation, is recovering from an operation and complications of illness.

* * *

Fleming W. Johnson, Columbia Enameling & Stamping Company, Terre Haute, Ind., called on oil company buyers in Tulsa last week.

* * *

Carl Van Laatan, St. Louis representative of the Michigan Alkali Works, was in Tulsa for a few days last week.

* * *

C. A. Prichard, purchasing agent, Mid-Continent Petroleum Corporation, is spending several days in Texas on company business.

* * *

P. E. Mahaffey, president, Happy Belting Company, has been on a business trip to points in the East including Philadelphia, New York and Boston.

* * *

T. J. Donoghue, executive vice president of The Texas Company, Houston, Tex., is in Hot Springs, Ark., spending a few weeks in rest and taking the baths.

* * *

H. D. Patridge, manager of purchases of the Indian Territory Illuminating Oil Company, Bartlesville, Okla., attended the meeting of the Associated Traffic Clubs of America in Tulsa.

* * *

O. E. McClatchey, purchasing agent of the Barnsdall Oil Company, was the choice of leaders of the Tulsa Community Fund for chairman of the branch house division in the fund campaign.

* * *

J. A. Vickers, of Wichita, Kans., president of Vickers Petroleum Company, who has been ill for the last month, has improved to a point that will permit him to leave the hospital during the week.

* * *

F. A. Billstone, treasurer of the Ohio Oil Company, Findlay, Ohio, and J. L. Cooke, treasurer of the Mid-Kansas Oil & Gas Company, Tulsa, have been spending a few days in Fort Worth, Tex., attending to company business at the district office.

* * *

W. H. Johnson, supervisor for the U. S. Geological Survey at Muskogee, Okla., has returned after several weeks' work at Teapot Dome where he was supervising repairs on a number of wells at Teapot Dome for the U. S. Navy.

* * *

L. P. St. Clair, president of the Union Oil Company of California and vice president of the American Petroleum Institute, is in charge of that branch of the Los Angeles Community Chest which takes care of charity solicitations of the oil industry.

Roy Lundy, purchasing agent of the Tulsa Rig & Reel Company, has gone to Shreveport, La., on business.

* * *

Harry W. Schuetz, Colona Protector division of the Pittsburgh Screw & Bolt Company, Pittsburgh, Pa., has been on a tour of the Southwest.

Men of the Industry

E. A. Olsen

E. A. Olsen, president of the Oklahoma Natural Gas Corporation, went to Oklahoma from California, where he was operative vice president of the Pacific Public Service. He went to California in 1928 equipped by years of utility operations in various parts of the United States and particularly in the South where he was executive vice president of the Florida Power Corporation and had similar operating responsibilities with the Georgia Power & Light Company, the West Florida Power Company and the Florida West Coast Ice Company. As operative vice president of the Pacific Public Service he was in charge of the organization and administration of the affairs of that company which managed natural and manufactured gas, electric, water and ice properties in Los Angeles and the region surrounding the San Francisco Bay district.

The Pacific Public Service, through its subsidiaries, developed gas properties from the British Columbian to the Mexican borders and stretched through the rapidly expanding States of Oregon, Washington and California. Mr. Olsen was charged with many responsibilities in the planning and construction of the large diameter transmission lines from the Kettleman Hills natural gas field to the great industrial area of San Francisco Bay. One of his most important problems was the changing over from manufactured gas with which northern California had been served for years to the higher heat content of that State's new natural gas.

Mr. Olsen served overseas with the American Expeditionary Forces as a signal corps officer and attained the rank of major. When the war was over he became associated with Day & Zimmerman of Philadelphia, and had problems of administration and operation of various utility properties.

Before being elevated to the presidency of the Oklahoma Natural this month Mr. Olsen for months had been in active management of the company as executive vice president. Residing in Tulsa, he has offices in both that city and Oklahoma City.

T. B. Hall, representing Hope Engineering Company, Mount Vernon, Ohio, is spending some time in the Mid-Continent calling on pipe line companies.

* * *

R. D. Feltner, head of the land department of the Stanolind Oil & Gas Company, Fort Worth, Tex., is visiting his home in New York.

* * *

W. T. Hardendorf, of Denver, Colo., stopped off in Casper, Wyo., en route home from a trip to Salt Lake City, Utah.

* * *

A. E. Lidderdale, Rocky Mountain representative of Spang & Company, has recently completed a tour of the oil fields in Alberta and Montana.

* * *

D. D. White, sales representative of the Ferodo & Asbestos Company, Inc., New Brunswick, N. J., who is on a business trip through the Southwest, stopped off in Tulsa.

* * *

Frank McCarthy, of Salt Lake City, Utah, general manager of Uinta Pipe Line Company, has been spending some time at the office of the Ohio Oil Company, in Casper, Wyo.

* * *

Mr. and Mrs. Herbert W. Ladd, of Denver, Colo., formerly of Casper, Wyo., were guests of Casper friends. Mr. Ladd is superintendent of equipment for the Midwest Refining Company.

* * *

George H. Jaques, vice president and general manager for the Midwest Refining Company, with Denver, Colo., offices, has been visiting the Salt Creek Field.

* * *

Dr. M. G. Paulus, general manager of manufacturing for the Standard Oil Company of Indiana, at Chicago, visited the company's Casper, Wyo., refineries recently.

* * *

Hal Curran, of Calgary, Alberta, Canadian representative of the Parco Oils, Ltd., subsidiary of the Producers & Refiners Corporation, spent several days in Casper, Wyo., last week.

* * *

Dr. Noel H. Stearn, consulting geologist of St. Louis, Mo., was recently made chief geologist for W. C. McBride, Inc., and the Silurian Oil Company, and placed in charge of their exploration and land departments.

* * *

J. A. Tidball, of Fort Worth, Tex., representing the Independent Derrick & Equipment Company, of Columbus, Ohio, has been making his headquarters for several weeks at Greeley, Colo., looking after the interests of his company in northeastern Colorado.

* * *

J. R. Pemberton, chief geologist of the Petroleum Securities and for a number of years associated with E. L. Doheny Oil Companies, has resigned effective November 1, and will take a much needed rest before engaging in any further professional work.

* * *

Friends of R. O. Lowrance, of the Sinclair Oil & Gas Company's land department, at Tyler, Tex., will be interested to hear of his marriage to Miss Sammie Lee Quarles at the home of the bride's parents in Palestine, Tex., on October 31. They will take a short honeymoon trip to New Orleans, arriving at home, 813 Donnybrook Drive, Tyler, Tex., on November 10.

* * *

R. B. Hall, of R. B. Hall & Company, Sales and Engineering, with general offices in the Magnolia Building, Dallas, Tex., has returned to headquarters from an extended business trip to New York, Boston, Chicago, Kansas City and other points in the East and Middle West, making a portion of the trip by plane. R. B. Hall & Company now represent The Ruberoid Company, 95 Madison Avenue, New York City.

Natural Gas Industry Developments

STATE LAW SUSTAINED ON TEXAS GAS WASTE

AUSTIN, Tex., Nov. 2.—The state has been granted an injunction in Travis County District Court restraining the T. M. Deal Oil & Gas Co. of Amarillo from operating its wells in Hutchinson County in the Panhandle area.

The company had brought suit for injunction to restrain the commission from interfering with the operation of its wells and attacking the constitutionality of the law under which the orders of the commission were issued. The court upheld both the law and the commission's orders. Application of the company for injunction was denied and the state's counter request granted, effective immediately.

Fred Upchurch, assistant attorney general, stated suits would be filed against other operators in the field as soon as a federal court injunction restraining the state from filing additional suits could be modified. A motion to modify the federal court injunction will be made immediately, he said. The federal court injunction was obtained by F. C. Henderson, Inc., operator of a gasoline extraction plant at Sanford. The gas produced by Deal and other operators was sold for use in the gasoline extraction plant.

Gas wastage in the Panhandle area has been one of the most serious problems faced by the Railroad Commission in its conservation efforts. Upchurch stated the Deal properties were producing 27,000,000 feet of gas daily, from which 185 bbls. of gasoline were being extracted, the residue gas being blown into the air and wasted.

The suit involved the right of a well operator to use natural gas from nonoil strata. Under the Texas law, gas from nonoil strata must be used for commercial or domestic purposes. The Deal interests claimed the gas was being produced from oil strata. The state contended they were gas wells and that any oil produced was incidental.

MONTANA GAS FOR ST. PAUL.

ST. PAUL, Minn., Oct. 31.—A movement to write into the new franchise of St. Paul a provision for the utilization of Montana natural gas has found endorsement of the St. Paul Dispatch, which says:

"Arrival of representatives of Montana natural gas producers while St. Paul is considering a new 20-year franchise is timely. With the remarkable progress being made in the natural gas industry, it is almost a foregone conclusion that this fuel will be piped into St. Paul at some time during the life of the new franchise. The pipe lines are marching on St. Paul from two directions—from the southwestern fields and from Montana."

NEWTON, KANS., FRANCHISE

The Newton Gas Co., a Cities Service Co. subsidiary, has asked for a new gas franchise in Newton, Kans. The prices in the new franchise follows: Minimum of $1 a month for first thousand feet. Next 10,000 feet, 50 cents a thousand; next 80,000 feet, 40 cents a thousand; all over the above amount, 22 cents a thousand feet. This rate is the same as given in towns and cities being served from the McPherson County Field.

GAS COMPANY BANQUET

CHATHAM, Ontario, Oct. 31.—Employes of the Canadian Western Natural Gas Co. for the Lethbridge and Northern district held their fourth annual banquet recently at Claresholm, Alberta. Officers present included C. J. Yorath, president, and P. D. Mellon, chief engineer, of Calgary, and R. Winter, superintendent at Lethbridge.

OKLAHOMA CITY LOOKS FOR CHEAPER GAS RATE

Possibility Oklahoma City will be offered a gas rate of 35 cents or less is reported by Councilman J. E. Taylor, who says he expects several propositions to be submitted to the city council, following defeat of the Oklahoma Natural Gas Corp.'s franchise proposal at the pools.

Officials of the Pioneer Gas Utilities Co. once proposed a rate offer of 35 cents to the council's gas committee, of which Taylor is chairman. The offer never was formally made because the Oklahoma Natural's franchise has three years to run.

Neither the Oklahoma Natural nor any other gas company had a franchise plan to submit, but several were reported considering offers to supply the market at a rate considerably less than the 45-cent figure stipulated in the defeated Oklahoma Natural proposal.

E. A. Olsen, Oklahoma Natural president, indicated that while his company would again request a franchise renewal the rate would be the same, so far as could be determined at this time.

Reports indicated the Western Service Corp., the Industrial Gas Co., and other firms might bid for a franchise.

Margin by which the Oklahoma Natural Gas Corp. franchise renewal proposal was beaten was 4,198 votes, according to official tabulation. The official count was 13,198 against the franchise and 9.000 for it, making a total poll of 22,198 votes.

GAS APPLIANCE SALE BANNED IN KANSAS

TOPEKA, Kans., Oct. 31.—A new Kansas law designed to remove public utilities as competitors in the sale of gas appliances, radios and other merchandise was upheld as constitutional by the Shawnee County district court, but the decision will be appealed to the State Supreme Court.

Constitutionality of the act was upheld by Judge Otis E. Hungate in denying injunctions sought by 10 gas company subsidiaries of the Cities Service Co. against enforcement of the law, enacted by the legislature last winter.

Plans for an appeal to the State Supreme Court for Judge Hungate's decision were announced by Robert Stone, Cities Service attorney. He said an effort would be made to obtain a stay against enforcement of the law pending outcome of the appeal.

HOLDENVILLE RATE CUT

A new gas rate of 38 cents a thousand for the first thousand and 18 cents for each additional thousand feet, is now in effect in Holdenville, Okla., according to Don Farrar, manager for the Central States Light & Power Corp.

The new rate recently agreed upon replaces the former rate of 45 and 20 cents.

In return for the voluntary reduction, the city dismissed the suit pending in the Corporation Commission against the gas distributors. The purpose of the suit was to enforce a lower gas rate.

GAS FOR CENTRAL NEW YORK

Further expansion of the natural gas pipe line system in central New York is expected in the not distant future, with the possibility that cities along the west shore of the Hudson River may eventually be served with low cost fuel. Several large contracts for pipe and other materials will probably be awarded in connection with the construction of the main line and gathering systems to be built in the Wayne-Dundee Field, it is reported in financial circles.

CALIFORNIA GAS WASTE REDUCED IN SEPTEMBER

Waste of natural gas in California was reduced during September to less than 8 per cent of the total production and is probably at or close to the minimum that can be expected in normal oil field operation, according to Claude C. Brown, gas representative of the California Railroad Commission.

Data compiled by the commission indicate that one year ago California operators were blowing approximately 40 per cent of all natural gas produced into the air. During the third quarter of 1931, California used about 86 per cent of the natural gas produced either for utility distribution or in field and refinery operations, which includes repressuring work. During the same time last year only 59 per cent of the total production was utilized. The practical elimination of gas waste in California during September, which, incidentally, showed a great improvement over August, when 138,086,000 feet was wasted, is due to a large extent to a smaller production at Kettleman Hills where the Kettleman North Dome Association killed its two big gas wells.

GAS RATE REDUCTIONS HALTED BY COMMISSION

AUSTIN, Tex., Nov. 2.—Plans of the League of Texas Municipalities to bring about immediate gas rate reductions without investigating existing rates have been halted by the suspension of seven rate ordinances by the Railroad Commission. The commission suspended an ordinance adopted by the City Council of Denton providing for a reduction, on appeal of the Municipal Gas Co., a subsidiary of the Lone Star Gas Co. In the last few weeks the commission has granted appeals from reduction ordinances in Wichita Falls, Colorado, Mart, Cameron, Borger and McLean.

Suspension of the ordinances followed the commission's announced intention to investigate such ordinances as fast as the appeals are filed.

The league, which met at Fort Worth September 28, urged the cities simultaneously to pass rate ordinances on the theory that the rates would be reduced automatically when the ordinances went into effect and the companies would either have to submit to the reduced rates or appeal to the courts. In the meantime, the cities would be getting the benefit of the reduction. This plan was nullified by the policy of the commission in suspending the ordinances until hearings can be held.

The stand of the commission is based on an opinion by the Attorney-General's department that the companies could continue to charge existing rates provided they filed bonds for the protection of the consumers.

The cases coming before the commission probably will involve an investigation of the value of the company's plants in each city. Since the commission does not have original jurisdiction over such matters within the corporate limits of cities, it is necessary for the cities themselves to make a valuation of the distributing plants.

In all appeals filed, the gas companies contend that because of loss of business during the last year the existing rates do not give a fair return.

NOWATA GAS SUPPLY

The Union Public Service Co., distributors of gas in the city of Nowata, Okla., is now furnishing its consumers with natural gas from gas wells drilled and producing in Nowata County. The new rate is between 40 and 50 cents, based upon volume of gas used.

MUSKOGEE GAS ORDER FOR CONNECTION VOID

Cancellation of two orders requiring the Southwestern Natural Gas Co. to connect with lines of the Cherokee Public Service Co. and the Municipal Gas Co. at Muskogee, Okla., was announced by corporation commissioners.

The Municipal and Cherokee companies have allowed to lapse a $5,000 bond ordered by the commission to insure immediate payment to the Southwestern company for gas used, the order said.

The first order cancelled was issued December 16, 1930, requiring the Southwestern to connect with the Municipal company lines; the second was issued January 7, 1931, requiring connection with the Cherokee lines.

"There is grave doubt as to whether this commission has authority to compel the Southwestern Natural Gas Co. to serve other gas concerns," the order stated.

The Southwestern company had appealed to the State Supreme Court from the commission requirement.

A third gas company, the Oklahoma Natural, serves Muskogee.

The Municipal and Cherokee Public Service companies will immediately renew the bond before the Corporation Commission, Kelly Brown, attorney for the two companies, said. Such orders from the Corporation Commission require 10 days notice before execution.

Mr. Brown added that there is already an order from district court requiring the Southwestern Natural Gas Co. to supply gas to the Cherokee Public Service Co.

Discontinuance of service from the Southwestern would in no way affect the supply of the Municipal Gas Co. or the Wagoner Gas Co. at Wagoner, however, according to O. C. Jamell, local manager for the Municipal company, who said the company already owns or has under contract an output of gas that greatly exceeds needs. For the past several months the two companies have taken less than 25,000 feet daily from the Southwestern, he said.

The Muskogee consumption from the Municipal company at this time is approximately 750,000 feet daily, Mr. Jamel said. The company owns wells both north and south of the city, he said, and has contracts or options on wells near Wagoner and Boynton.

Efforts by the Municipal and Cherokee Public Service companies to purchase gas from the Southwestern Natural caused several law suits last year. Following the mandamus order in the local courts the two companies obtained the orders from the Corporation Commission

The Muskogee Natural Gas Co., which also takes gas from the Southwestern Natural, is not affected by the Corporation Commission's order.

Reduction in the rate of the Muskogee Natural Gas Co. from 50 cents per thousand feet to 45 cents per thousand was announced by N. J. Cunningham, manager of the company. The new rate is to apply on all domestic gas and is effective as from October 1.

The company is now obtaining its gas from the Quinton Field, eliminating uncertainties of service, Mr. Cunningham said. The supply was formerly obtained from a shallow gas field.

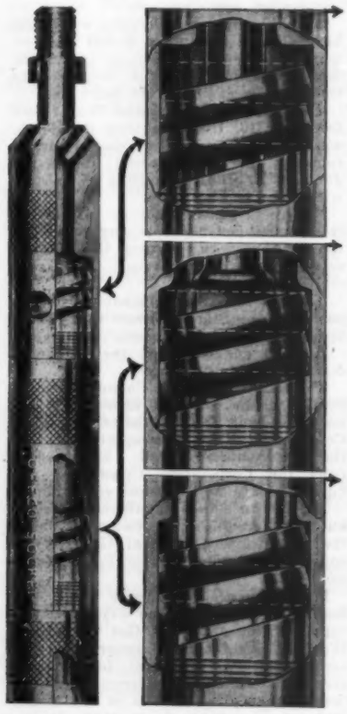
PORUM FRANCHISE TO O. N. G.

Citizens of Porum, Okla., by a vote of 138 to 4, granted a gas franchise to the Oklahoma Natural Gas Corp. Construction of 2 miles of line from its existing transmission system to Porum and of a local distribution system will soon begin. Porum citizens in February of this year voted a gas franchise to H. E. Dowd, who did not construct a distribution system.

Oil Industry Equipment and Supplies

WORN RODS GRIPPED AS SECURELY AS NEW ONES

The new Ofeco rod socket put on the market by the Oil Field Engineering Corp., Fort Worth, Tex., is so designed that badly worn rods, which have proven



the most difficult to fish, can be caught as successfully as full sized rods. According to the manufacturer a three-quarters-inch rod which has worn down to one-half-inch, or a five-eighths-inch rod which has worn to three-eighths-inch, can be gripped with the standard sized rings. Special rings can be provided for rings other than standard.

There is no pressure of the sides of the shell and no possibility of splitting or bulging the bowl. All strains are taken in the same direction of the pull by the rings and canted surface of the guide. The socket is machined from a solid bar of special alloy steel and electrically heat-treated for extreme strength. The rings are machined from a fine grade tool-steel electrically heat-treated to get an extremely hard surface with a soft core to resist shocks without breaking.

Three sets of rings are provided with each Ofeco combination rod socket, one set to grip the rod, one set for the coupling and one set for the upset. The top set of rings are always the rod rings, the bottom set of rings grip the upset or coupling. If the break is on top of the coupling the coupling rings are used, if on the bottom of the coupling the upset rings are used. The guide nose is unscrewed and whichever set of rings is required, is dropped in. Rings for all sizes of rods are available.

OVER 2,000 YEARS OF SERVICE

The CP Quarter Century Association has been formed to include all present employes of the Chicago Pneumatic Tool Co. and its affiliates in its several manufacturing plants and numerous offices throughout the world, who have completed 25 years or more of uninterrupted service. The 75 employes eligible have given a total of 2,112 years service.

NOTES ABOUT TRADE LITERATURE

The following bulletins may be obtained from the Apex Regulator Co., Marshalltown, Iowa: No. 320X, ammonia back pressure or relief valve for liquid level controlled evaporators or expansion coils; No. 305X, pressure control or condensing water regulator for water cooled condensers; 210X, direct flow relief valve with bottom discharge for noncorrosive liquids; 410X, combination pressure and vacuum relief valve for gasoline and other oil storage tanks; 205X, A.S.M.E. standard pressure relief valve.

A broadside issued by the Linde Air Products Co., 30 East Forty-second Street, New York, describes the Oxweld W-21 Linewelder.

The G-E line of direct heat, metallic resistor electric furnaces are the subject of a 24-page bulletin from the General Electric Co., Schenectady, N. Y.

Two circulars are being distributed by the Fisher Governor Co., Marshalltown, Iowa. No. 830, eight pages, explains the flow characteristics and construction of Fisher valves. No. 835, four pages is devoted to Fisher type No. 327 liquid level controllers.

The McLeod & Henry Co., Troy, N. Y., has published a 32-page bulletin, No. 231, describing its boiler furnace linings, walls and arches made of steel mixture refractories. This bulletin explains in detail the many different arrangements of settings for water tube and horizontal return tubular boilers, fired by oil or by coal with various types of stokers.

Jeffrey oil well chains and their uses are described in an illustrated bulletin distributed by the Jeffrey Manufacturing Co., Columbus, Ohio.

"During this depression expenditures of approximately $1,000,000 have been authorized for new development, research work and new equipment," says a piece of literature distributed by the Busch-Sulzer Bros.-Diesel Engine Co., St. Louis, Mo. "We are confidently building for the future."

Two new vertical compressors are described and illustrated in bulletins being sent out by the Sullivan Machinery Co., Chicago.

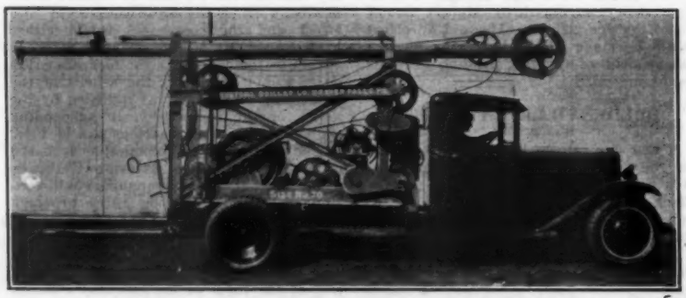
A bulletin mailed by the American Manganese Steel Co., Chicago Heights, Ill., explains features of the Amsco Type C materials-handling pumps.

"The Path to Permanence," a 64-page booklet prepared by the Republic Steel Corp., Youngstown, Ohio, gives the latest information concerning toncan copper molybdenum iron sheets. It also illustrates various types of installations of this rust and corrosion-resisting metal, along with examples of performance under severe conditions.

"Vim Short-Center Drives" is the name of a new 148-page belt treatise compiled by the engineering research staff of E. F. Houghton & Co., Philadelphia, Pa. The book contains charts, tables, and engineering data on 5,000 standard Vim efficiency drives ranging from 5 to 100 horsepower. It was published originally for use by Houghton's technical field men, in working out transmission problems with engineers, and, therefore, it is not for general distribution. Copies will be delivered by a Houghton distributor to executives and engineers who send their requests on their letterheads.

The current number of Research Group News, Chicago, contains articles on "Faraday's Dynamo," "National Metal Convocation," "Shrinkage and Machining Allowance," and "Steel Foundry Phraseology."

KEYSTONE MAKING MACHINE FOR SHALLOW OIL AREAS



The new Keystone No. 70 drilling outfit announced by the Keystone Driller Co., Beaver Falls, Pa., is designed to meet the need for a light but powerful and efficient machine adaptable for drilling and cleaning-out work in shallow oil territory and for drilling water wells. It can be used with either manila cordage or wire drilling cable. With the latter it can be used for drilling purposes to a depth of 600 feet and for clean-out work to a depth of 1,200 feet. It will handle 1,400 pounds of drilling tools. The light all-steel, strongly riveted frame is readily portable.

The machine, exclusive of derrick and tools, can be conveniently packed in one box, approximately 10 feet long, 4 feet wide and 6 feet high, and weighing about 5,000 pounds. It has a 16-horsepower, 4-cylinder Waukesha engine, producing ample power and drives through two internal expanding clutches on a countershaft, to the rope drum and the drilling crank. Ball bearings are used on the drilling crank. All main shafts are 2⅞ inches in diameter, which is oversize for the short span between bearings characteristic of this compactly built machine.

The most rapid and convenient form of mounting is a 1½-ton truck. A 3 or 5-ton truck can be used without disadvantage. Oftentimes the extra truck capacity can be utilized in carrying additional tools. The telescoping pipe derrick, 30 feet high extended, offers strength and rigidity.

MEN KNOWN *in* THE EQUIPMENT FIELD

William F. James, formerly Middle Atlantic district manager of the Westinghouse Electric & Manufacturing Co., has been appointed assistant to the commer-

William F. James

cial vice president of the Atlantic division.

Mr. James entered the employ of the Westinghouse Electric & Manufacturing Co. in 1909, becoming engaged in industrial sales work in the Philadelphia office. In 1912 he began to specialize in steel mill electrification, and in 1923 became sales manager of the industrial division. In 1925 he was appointed Middle Atlantic district manager with headquarters in Philadelphia.

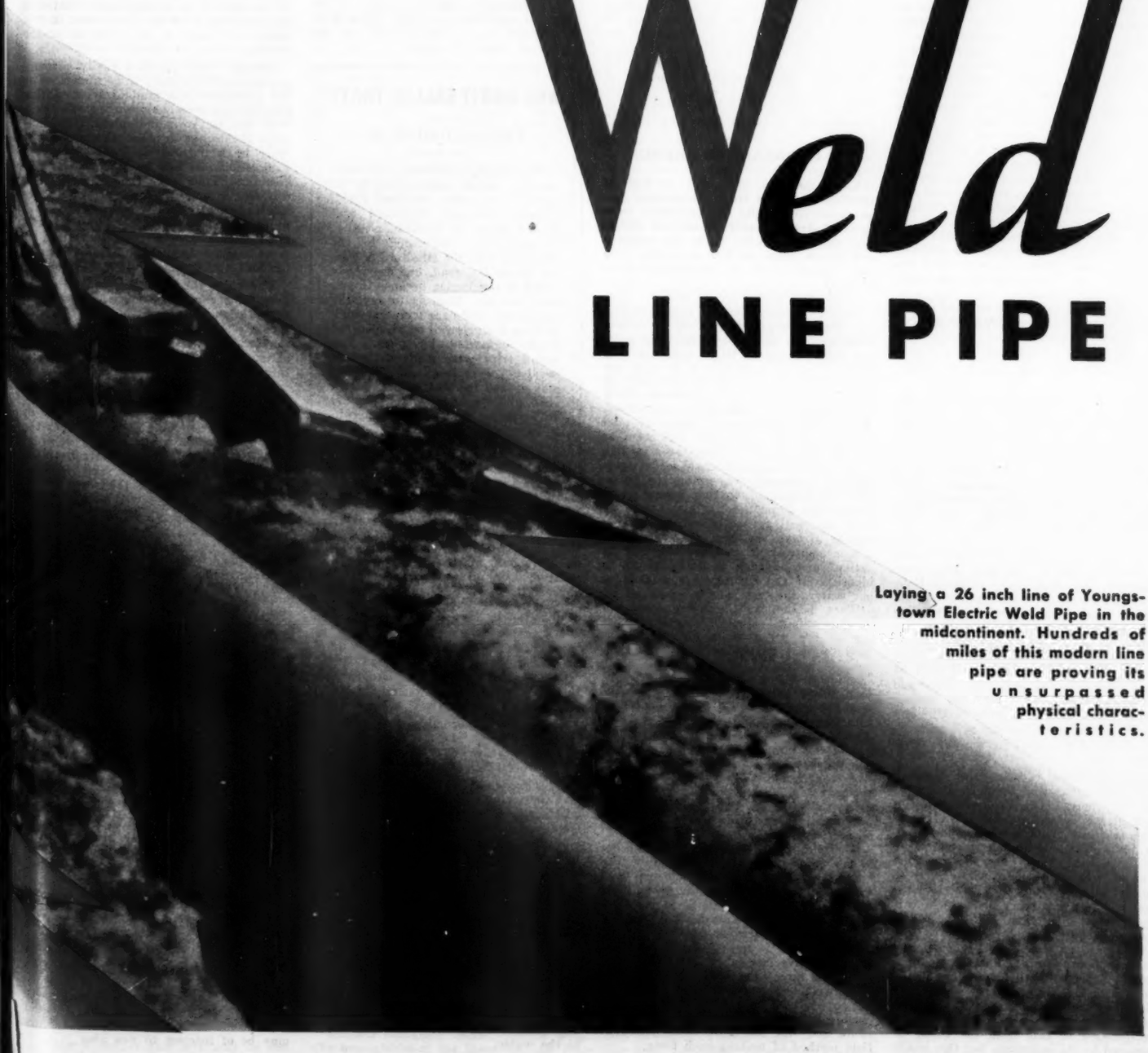
Mr. James is a past president of the Electrical Association of Philadelphia, past president of the Engineers Club of Philadelphia, a member of the Industrial Relations Committee of the Philadelphia Chamber of Commerce; and a member and past regional vice president of the American Institute of Electrical Engineers. E. W. Loomis succeeds him as Middle Atlantic district manager.

FREE FROM EFFECTS OF AMBIENT TEMPERATURES

Extreme accuracy and freedom from the effects of ambient temperatures (case and tubing temperatures) are the claims made for the new "Anti-Ambi" recording thermometer recently developed by the Foxboro Co., of Foxboro, Mass. This new recording thermometer gives true bulb temperatures at all times irrespective of summer heat or winter cold. The case and tubing may be enclosed in a cabinet and the temperature changed rapidly or slowly up and down for 50° and the pen will remain perfectly steady. The thermometer is designed for use on temperature ranges up to and including 250° F.

The instrument is unique in construction being based on a new interpretation of an old and proved principle. It contains no cams, compensating levers, bimetalic strips, or retarding action of any kind. A special construction feature is found in the small bulb. The thermometer is so designed that it can make use of a sensitive bulb as small as 1 inch long. This feature will be found particularly useful in measuring temperatures in pipes. More detailed information on this instrument may be had by writing Foxboro for bulletin No. 178.

Electric Weld LINE PIPE



Laying a 26 inch line of Youngstown Electric Weld Pipe in the midcontinent. Hundreds of miles of this modern line pipe are proving its unsurpassed physical characteristics.

Field Problems and Their Solution

EDITED BY THOMAS F. SMILEY

In order that men connected with the drilling, producing and transporting branches of the petroleum industry may procure quickly a solution of many problems confronting them from time to time in their work, The Oil and Gas Journal has arranged with leading engineers and other recognized authorities to answer questions submitted by readers of this publication pertaining to the work of drilling and producing crude oil and transporting this product.

Everyone is invited to submit questions freely. These questions will be submitted to proper authorities by Mr. Smiley, who edits the page, and answers, based on the best available information, will be published. Each question should give as much detail as possible, especially where it relates to matters where depths of sands, types of sands and operations on adjoining properties would have a bearing on the problem involved. The source of all questions will be considered as confidential and only initials will be published in connection with the question.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or practices which are improvements.

In case an immediate answer is important, one will be given by mail if the writer requests it.

EVAPORATION OF SALT WATER

Why can't the whole problem of disposing of salt water in oil fields be answered by inexpensive heating plants, which would evaporate the water and leave the salt as a valuable commercial product? Many of the fields which have so much trouble with salt water waste gas that could be used in evaporating the water. Has this method ever been tried?—F. M. E.

The method of getting rid of salt water by heating plants has been considered carefully and has been abandoned by most engineers as impracticable on account of the expense it involves. It must be borne in mind in the first place that salt water usually does not appear until after the period of flush production, when it may even be decided that it will be more profitable to plug the wells and abandon the lease than to incur the expense that would have to be met in any device for disposing of the salt water—by artificial evaporation or any other way.

In a discussion of salt water disposal, M. H. Shanahan and Scott C. Miller, of the Continental Oil Co., presenting a joint paper before an American Petroleum Institute chapter meeting in Wichita Falls, Tex., declared evaporation by artificial heat "has never proven economical." Speaking more particularly of the Wichita Falls district, which, however, is like many other districts in this respect, Mr. Shanahan and Mr. Miller say:

"No lease in this area has sufficient gas fuel to evaporate its water, and the cost of purchasing fuel from outside is prohibitive. It has been suggested that a jointly owned and operated plant in special districts for the evaporation or precipitation of salt from the water be promoted by the operators, but this would not be practical from an economical standpoint, and in support of this last statement, we quote extracts from report of C. B. Clement of The Texas Company, who made an extensive examination and study of the Morton salt plant at Grand Saline, Tex., with the view of evaporating salt water in oil fields by that method. Mr. Clement says: 'My conclusions are that it will never be practical to evaporate salt water in the oil fields by use of a heating plant unless it should be in some unusual locality where cheap heat is available such as in the vicinity of a carbon black plant. The main points to be considered from our viewpoint are as follows: (1) The cost of installation of a heating plant is excessive. (2) The plant evaporates only 4,000 bbls. of salt water per day, and has an extreme high investment, while this amount of water is far short of the volume to be disposed of in this territory. It was concluded that it would cost the operator from 10 to 12 cents per barrel to evaporate the water in the oil fields even with the most efficient heat methods . . . and this information should relieve the minds of any who have been nursing an idea that oil field salt could be disposed of economically by the application of heat.'"

IS IT GREASE OR CRUDE?

Can you give any easy method of identifying grease from the drilling line or casing in samples of sand taken from a well? I am unable to tell the difference between crude oil in the cuttings and grease from the line or casing with the ordinary ether or chloroform test.—F. J. R.

Drillers commenting on your question say they never use the ether or chloroform test on sands because these tests are too delicate to be of practical use. If oil exists in a formation in such minute quantities as to be detected only by washing with ether or chloroform it is not present in commercial quantities. Any results from such methods of testing cuttings are negligible and whether the showing is grease from the wire line or oil in the formation would make virtually no difference concerning the possibility of finding oil in that formation in commercial quantities.

If the cuttings are oil-saturated it is almost always the case that some gas will accompany it and the oil will be "alive" and as such is not difficult to identify. If the cuttings are washed in hot water, the test usually employed by drillers in the Mid-Continent area, and there is only a "rainbow" showing on the top of the water it is pretty safe to pass up that particular formation as a possible source of commercial oil. This rainbow of oil on top of the water might come from lubricant used on the wire line but even if it did not it would be so slight a showing that it too would be discarded as not commercial.

It seems unnecessary to make any distinction between rainbow showings of oil from the formation and that from lubricating grease on the wire line. Furthermore, the ether or chloroform test is not practical in looking for oil in commercial quantities.

The main distinction to be observed between grease and crude oil will be the quality of the two oils, one being what is termed "dead oil" and the other "live oil" and if the crude oil is in commercial quantities it is almost always accompanied by a noticeable amount of gas, whereas there is no possible source for gas with wire line lubricant.

If it is imperative that oil showing in your well be identified positively it is suggested that you send a sample to a chemist skilled in working with lubricants and oils, for there is no practical field method of making such tests.

IMPROVING STRIPPER WELLS

I am interested in increasing production from stripper wells of the Bartlesville sand in the Nowata-Alluwe-Chelsea Pool. With reference to water flooding in this area I would appreciate any information or references you may give me concerning this subject, more particularly concerning any regulations which might prevent or hinder the use of water flooding.—H. S. M.

William J. Armstrong, chief oil and gas conservation officer of the Oklahoma Corporation Commission, advises this department that the commission never issued any general rule governing the question of flooding wells with water and to his knowledge no application ever was made to the commission for a permit to use water flooding.

It is suggested that you write to the technical department of the Tulsa Public Library for a bibliography on the subject of water flooding.

WHY WAS IT CALLED THAT?

PEGLEG RAILROAD

The Pegleg Railroad, an engineering marvel remembered by oil men of the early Bradford Field, operated between Bradford and Foster Brook in McKean County, Pennsylvania. According to the charter it was the Bradford & Foster Brook Railroad, but everybody called it the Pegleg because it had only one leg. That is to say, the locomotive and cars were suspended from a single rail on an elevated track supported by piles. Ten round trips were made daily and accidents were frequent. The line was opened for traffic in January, 1878, and a year later, January 27, 1879, the explosion of a boiler in a locomotive on trial killed six men. The next year the road was disposed of at sheriff's sale.

B.T.U. AND THE CALORIE

What is the meaning of the abbreviation, B.t.u.? What is the meaning of calorie? Both of these terms are used a great deal in oil writing, especially the abbreviation.—E. F. G.

The B.t.u. (British thermal unit or heat unit) is the quantity of heat required to raise the temperature of 1 pound of pure water from 62° to 63° F., or 1/180th of the heat required to raise the temperature of 1 pound of water from 32° to 212° F.

The French thermal unit, or calorie, is the quantity of heat required to raise the temperature of kilogram of pure water from 15° to 16° C.

One French calorie equals 3.968 British thermal units. One B.t.u. equals 0.252 calorie. The "pound calorie," sometimes used by English writers, is the quantity of heat required to raise the temperature of 1 pound of water 1° C. One pound calorie equals 9/5ths B.t.u. equals 0.4536 calorie. The heat of combustion of carbon to CO_2 is said to be 8,080 calories. This figure is used either for French calories or for pound calories, as it is the number of pounds of water that can be raised 1° C. by the complete combustion of 1 pound of carbon, or the number of kilograms of water that can be raised 1° C. by the combustion of 1 kilogram of carbon, assuming in each case that all the heat generated is transferred to the water.

DAMAGE FROM PARAFFIN

I have found evidence of paraffin in some of my wells and have been reading about methods of removing it. Before going to any great expense or trouble I'd like to know whether it is worth while. I have noticed some falling off in production, but that may be expected and I do not know that it is the result of the paraffin. Except in the really bad cases is paraffin necessarily a very great evil?—N. F. E.

Paraffin and the substances found associated with it, when deposited on the face of the oil sand and in the pores, inevitably obstruct the flow of oil into the well and the evil is a growing one. While the falling off in production you have observed may not be assigned with absolute certainty to the accumulation of paraffin, it is wholly likely that this has much to do with it and that it will have even more to do with it in the future.

Damage from paraffin easily becomes serious and it is likely to go unnoticed as the deposition is a gradual accumulation growing progressively worse. As each well has its own individual characteristics the decline in production may seemingly be a natural decline approaching exhaustion and can be detected only by cleaning. Thus each well presents a different problem. However, the quantity and rapidity of deposition of paraffin in the tubing and other pumping equipment should give a good indication of what may be happening to the walls of the hole and in the pores of the sand.

The older the well, the greater is the paraffin menace as the long continued evaporation due to the gas passing through the pores and over the face of the sand hastens the deposition of paraffin. Naturally both gas and oil decline throughout the life of the well, but generally the ratio between gas and oil changes throughout this same period, that is, the decline of gas is not as great as the decline of oil. Thus the older the well, the greater is the amount of evaporation and paraffin per barrel of oil. Hence paraffining is an accumulating evil that may plug off the pores in the sand long before the well is exhausted.

Casing, tubing and pumping equipment are subject to paraffining but the damage is not as serious as paraffining of the sand. These troubles are readily apparent and can be remedied but at considerable cost.

POWELL POOL SURVEY

In The Oil and Gas Journal for July 9, 1931, was an article on "Salt Water Disposal East Texas Problem." I note a statement therein that a survey had been taken in the Powell Pool which revealed that the field had reached its peak salt water production at the end of the third year. Has any information on this survey been published in any periodical or pamphlet?—W. R. B.

This survey is covered in a bulletin issued by the Bureau of Mines entitled "Production and Development Problems of the Powell Oil Field, Navarro County, Texas," by H. B. Hill and Chase E. Sutton. This is known as Bulletin 284 and can be obtained from the United States Government Printing Office, Washington, D. C., for 45 cents. The bulletin gives a full history of the Powell Field and the rate of water movement together with other data which will be of interest to you. A bibliography on salt water disposal articles compiled by the technical department of the Tulsa Public Library may be of interest to you also.

Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas, and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

TESTING FOR ACID IN LUBRICATING OIL

What is the proper test for acids in lubricating oil? Is sulphuric acid the only acid to look for? How can the percentage of acid be found?—S. R. H.

It is presumed that the question is intended to apply to mineral acids, the presence of which may be detected by the use of suitable indicators, such as litmus, methyl orange, etc., and then identified by proper reagents. These indicators should be used for testing a water-wash of the oil.

The only mineral acids that may occasionally be found in a lubricating oil, derived from petroleum, are hydrochloric and sulphuric. Hydrochloric acid may find its way into a lubricating oil through the decomposition of sodium, calcium, and magnesium chlorides carried in the water produced with the crude oil or introduced during the refining process by certain chemical reactions. Sulphuric acid is commonly used in the treatment of lubricating stocks and traces of this acid may remain in the oil if it is not fully neutralized and washed. Reliable proof of the presence of such acids in lubricating oils is scarce, although traces of their salts are sometimes found.

The test solution is obtained by thoroughly washing the oil with hot, just below the boiling point, distilled water. A sample of the oil should be measured and a definite volume, 50 to 100 per cent, of the hot water added. Then the two liquids should be thoroughly agitated by shaking for one minute, and, if the separation should be very slow, set aside in a warm place until good separation is obtained. Remove a measured quantity by means of a siphon and test with a drop or so of the indicator solution. If a positive result is obtained a quantitative determination may be made by adding barium chloride solution to one aliquot (for sulphuric acid) and silver nitrate solution (for hydrochloric acid) to another. The precipitate, if one is obtained, may be washed, weighed and calculated to per cent, according to procedure well known to chemists.

While a test of this sort may be considered a simple one it should not be undertaken by one who is not familiar with all of the details and especially the precautions to be observed. Unfortunate misunderstandings have frequently developed and loss of business resulted simply because someone has attempted a piece of work that should have been done by an experienced chemist.

FRENCH REFINERIES

Can you furnish information showing the number of refineries, built and building, located at convenient places for importing in France, and the total capacity of these plants?—E. G.

Petroleum refining in France is conducted by the several refineries under a permit system whereby the company of government authority may "Import annually the quantity of crude petroleum, derivatives or residues, necessary for the manufacture of the quantities of products named on the permit, either for its own account or for others associated with it." These permits run for 20 years with a possible extension to 30 years. The total quantity of oil to be handled under these permits is 2,832,250 tons, or 21,241,875 bbls. per annum.

The largest consumption indicated in the permits by port refineries is by the plants located in the Havre-Rouen section, being equivalent to nearly 50 per cent of the total. The number of established and proposed refineries at port or border cities is shown in the table.

Number of French Port Refineries

Area—	Built	Proposed
Dunkirk	1	2
Lille	2	0
Strasburg	1	0
Havre-Rouen	2	3
Brest	0	1
St. Nazaire	1	0
Rochelle-Bordeaux	3	3
Cette	3	0
Marcelilles	1	4
Cherburg	0	1

Several combinations of interests have been made and about 80 per cent of the total capacity has been given to the following: Royal Dutch, Vacuum Oil Co., Raffineries de Berre, Anglo-Persian with Campaigne Francaise, and Franco Americaine de Raffinage, (Standard Oil interests).

CARBON MONOXIDE POISONOUS CHARACTER

What is the output of carbon monoxide from an automobile? What is considered to be the poisonous percentage of this gas in the air that might prove fatal when breathed by the average person? When a person is rendered unconscious by carbon monoxide what are the chances for recovery when brought into pure air? Is recovery slow?—W. F. T.

Carbon monoxide is a product of incomplete combustion so the quantity formed will vary with the quantity of air consumed. It may vary in the exhaust of an automobile from something less than 1 per cent of the total volume of gas to a quantity approaching 10 per cent. This variation depends on the air-fuel mixture, and the quantity of monoxide formed increases with increase of gasoline. As there is a richer mixture when starting the motor with the use of the choke, a larger percentage of the deadly gas will be formed then than when the car is running under ordinary driving conditions. The small car may produce 1 cubic foot of carbon monoxide per minute, a quantity sufficient to render the air of a single-car garage with closed doors poisonous within five minutes.

Carbon monoxide unites directly with the hemoglobin of the blood and the volume of respiration is a limiting factor in the rate at which this combination may take place. Muscular exertion increases the volume of breathing and consequently a person at work will be overcome quicker than if he were at rest and exposed to the same concentration. When two persons differing greatly in size, or when an adult and a child, both at rest, are exposed to the same quantity, it is the smaller and younger individual, the one with the more active metabolism, who absorbs the gas and tends to approach saturation the more rapidly.

A concentration of 1,500 to 2,000 parts of carbon monoxide per 1,000,000 is considered dangerous for exposure for one hour and concentrations above 4,000 parts may be fatal in exposures of less than an hour.

As absorption of carbon monoxide advances there is deficient aeration of the blood with increase in breathing and acceleration of pulse rate. The first noticeable symptom is dullness, following reduction of the oxygen supply from the normal 21 per cent to between 12 to 16 per cent. This progresses in steps to the condition where the oxygen supply is less than 6 per cent followed by death. A person may go through reduction to about 10 per cent under ordinary asphyxia and be revived. Unfortunately carbon monoxide continues to function, in diminishing degree, during the period of elimination and complete elimination may require many hours. The illness may sometimes last for several days before all danger can be considered passed.

BLENDING LUBRICATING OILS

What are the relative merits for use in an automobile engine of lubricating oils having a narrow distillation range compared to blended oils such as a mixture of high viscosity bright stock with low viscosity neutral oil? Please mention literature on this subject.—F. A. D.

The purpose of a lubricant is to prevent friction and the ideal lubricating oil is one that will adhere to the metal so as to separate two bearing surfaces by means of a thoroughly distributed film or layer of oil. The conditions existing within the internal combustion engine are such as to require stability of the oil; that is, good viscosity combined with adhesion and no decomposition when lubricating the parts at comparatively high temperatures. This ideal lubricating oil would remain constant in composition and leave no residue on distillation, but this oil is not known. All that can be done is to approach the ideal as closely as possible.

If the oil is of extremely low viscosity, very thin consistency, it may permit the surfaces to come in contact with resulting damage. Just how low the viscosity may be allowed to go for actual safety has not been determined. High viscosity oils, or thick heavy oils, are desirable since they furnish a thick film, but the difficulty lies in getting such oils to the bearing surfaces. The feed is slow so a high viscosity oil may not reach the surface until after scoring has resulted; also, much power is required to force the oil into place and the engine is hard to get started.

When used in the automobile engine there is a tendency for the lubricating oil to be diluted with such portions of the gasoline that are not consumed, resulting in reduced viscosity and a lower boiling point of the oil. This dilution is greatest when the temperature is low and at the minimum at high temperatures. The normal trend is for this dilution to reach an equilibrium of about 15 per cent, equivalent to a fixed viscosity of close to 180 Saybolt when an oil of 300 viscosity is used. If the same rate of dilution persists it appears that a low viscosity when used at the start may be brought too low for safety.

A brand of oil prepared with these principles in mind was announced in 1926 and is now extensively distributed. When announcing this oil it was explained—An oil of about 200 viscosity may give excellent results for the first 25 miles but thins rapidly to a final viscosity of about 80, too low for safety. When a 325 viscosity oil is charged there will be about 50 miles of hard starting and poor cold lubrication until dilution brings the viscosity to around 107, also too low, although fair results may be obtained if the oil is kept clean.

If the motorist decides on a 500 viscosity oil he finds it almost impossible to start the car in cold weather and frequently gets no lubrication during the warming up period. This hard starting cold lubrication persists for the first 100 to 150 miles, beyond 200 miles dilution has approached equilibrium of about 165 viscosity, a good condition. The essential idea is for the refiner to bring the oil to the same condition in the first place. In other words, the refiner increases the vapor pressure of the heavy oil to correspond with that in the crankcase and thus prevents it from picking up more. This lowers the viscosity to about 200 seconds and from this point it thins very little as it picks up only 5 or 6 per cent more diluent to reach the average equilibrium dilution. This relation depends on the distillation range of the oils, so the conclusion is indicated that the most satisfactory blend for a motor oil should contain a low boiling fraction mixed with a heavy or high boiling stock.

Numerous articles have been published on this subject, the following are merely examples: See Chemical Abstracts over past five years. Baillie, Temperature Relations of Lubricating Oils, J. Instn. Pet. Tech., 16, 643, 1930. Wade and Foster, Relationship Between Volatility and Consumption of Lubricating Oils in Internal Combustion Engines, U. S. Bur. Mines, Tech. Paper 500, 1931. Physical Principles of Lubrication, Kyropoulos, Z. Tech. Physik., 10, 2; 1929, from Chem. Abs., 23, 1746, 1929. The Oil and Gas Journal, December 9, 1926, p. 156.

VISCOSITY CONVERSION VALUES

I have to prepare viscosity conversion tables for all of the different forms for stating viscosity and would appreciate references both to tables and charts.—N. F. S.

There are numerous tables and charts which have been published for the purpose of converting one form of viscosity value to some other. Saybolt, Engler, and Redwood viscosity conversion factors were given in tabular form by this department in the issue of March 24, 1927, page 143. Some additional references follow: Technological Paper 112, U. S. Bureau of Standards; Day's Handbook of the Petroleum Industry, Volume 1, page 642; Oil and Color Trades Journal, January 6, 1928, page 17; Journal Society Automotive Engineers, Volume 10, 32, 1922; The Oil and Gas Journal, Barbey-Saybolt, May 1, 1930; Absolute-Saybolt, same, January 15, 1931; a chart, Osborn's Power Plant Lubrication, page 43.

All conversion schemes of this sort should be considered as giving approximate values, so when the matter is of vital importance the equivalent value should be obtained by an actual determination in the mentioned instrument.

Seen Here and There by the Journal's Cameras

1—Harley Reese, service man, and L. R. Austin, sales manager, All Steel Products Mfg. Co., Wichita, Kans., and W. F. McCormick, sales manager, Taylor Co., Tulsa. 2—J. N. Youmans, in charge of construction, Sinclair Refining Co., Ft. Worth, Tex. 3—Don Mathes, scout, Republic Production Co., Longview, Tex. 4—Carl Watkins, utility man, F. M. Hames, telegraph operator, M. T. Hendricks, engineer, G. W. Nethercutt, yard man, A. J. Springer, district machinist, E. J. Bourassa, painter, and H. H. Havely, utility man, Stanolind Pipe Line Co., Drumright, Okla. 5—John Schuh, tool pusher, Schrader Drilling Co.; J. C. Wells, district foreman, and J. M. McQuarrie, engineer, Shell Petroleum Corp., Kilgore, Tex. 6—C. M. Worley, Axelson Manufacturing Co., Ltd., and C. J. Ratigan, J. P. Ratigan Company, Turnertown, Tex.

CENTRAL WEST FIELDS

(Continued from Page 49)

castle, Henry County, the contractors being Delph and Chew. Recently Bert Kinnerman drilled in a gas well with 12,000 feet, on the Henry Foster lot, at Spiceland, same county, at 922 feet.

C. P. Erni and others have a location on the Arthur Beasley farm, in Sterling Township, Crawford County. Old Dominion Corp. is reported at around 2,000 feet on the Magers & Fisher farm, in Washington Township, Greene County.

ILLINOIS

No new wells were reported completed in any part of Illinois, although two new wells were started in Crawford County, in the Robinson Field. John Phipps is drilling on the Enoch Wesner farm, Section 4, Montgomery Township, and H. B. Edeburn is drilling No. 9 on the A. E. Joseph farm, Section 23, Prairie Township.

KENTUCKY

In the Kentucky Fields, completions were few during the week, the outstanding completion being Brenner & Adams' No. 1 L. R. Williams farm, in the Cane Run area of Daviess County, which had an initial of 100 bbls. at a total depth of 637½ feet.

In Ohio County, two completions were reported, with a combined production of 60 bbls. They are James C. Ellis and others' No. 5 E. P. Tally farm, in the Haynesville Pool, with a production of 35 bbls. initially and S. R. Berry and others' No. 5 Will Coleman farm, in the Coleman Pool, showing for around 25 bbls.

In Hart County, Perkins Brothers' No. 1 Wilson farm, in the Legrande Pool, is showing a 50-bbl. production, while Carpenter, Frost and others' No. 1 S. B. Coffee farm, same pool, shows around 40 bbls.

Muhlenberg County is destined for an active drilling campaign in the Greenville Field of that county, as gas is found at around 700 feet. Ellis & Young hold quite a large acreage in the field, and recently brought in a well good for a reported gauge of 1,800,000 feet on the J. L. Carey farm, at 685 feet, and also got an 800,000-foot producer in No. 1 Will Lee farm. The Ohio Oil Co.'s No. 1 Irvin Miller farm, near the Carey farm, same area, was reported with 710,000 feet at a total depth of 706 feet.

Two gas wells are reported from Webster County, in the Sebree Field. Both are owned by the Security Oil & Gas Co., No. 6 Curry farm and No. 1 Harkins farm.

MICHIGAN

In Michigan there were six completions in the southeastern part of the state, mostly for shallow gas. Four were in Wayne County and one in Gratoit County.

In Gratiot County, the Wittmer Oil & Gas Co.'s No. 1 Zimmerman farm, SE NW Section 8, Hamilton Township, is reported a gas well.

In Wayne County shallow wells drilled recently for gas were of little value as water was drilled into. G. E. LeVeque's No. 1 Ira Riggs farm, Section 26, Van Buren Township, was dry at 252 feet, as was D. W. Ross' test on his own farm, in the same township, at a depth of 118 feet. Berry's Corner Gas Co. drilled a dry hole on the Berry farm, in Sumpter Township, and the farthest south well of any of the shallow well propositions.

Adolph Anderson, trustee's test on the farm of Friedman and Strauss, Chicago men, in Section 25, Ott Township, Oceana County, near the town of Fruitvale, had a showing of oil in the Berea sand, along with some water. The well was then drilled to 1,600 feet. Operations were suspended for several days, however, and the bailer brought up water and oil. New equipment was moved in to continue drilling at least to the Upper Traverse formation which was encountered in a well in the same vicinity at 1,980 feet. It is one of the few wells now drilling in that part of Michigan.

The Pure Oil Co. was given a drilling permit for No. 5 on the Fred Sias farm, NE SE SW Section 8, Greendale Township, Midland County, the location being 990 feet from the south line and 2,310 feet from the west line of the farm, in Township 14, Range 2w.

H. H. Brown, of Mount Clemens, secured a drilling permit on the Gregory Wrants farm, P. C. 193, Township 3, Range 14e, in Chesterfield Township, Macomb County.

Milford Oil & Gas Co. is drilling on the Dr. N. I. Baker farm, 1 mile east of the town of Milford, in Milford Township, Oakland County.

Mellon-Pollock Oil Co. made a location for a second test 330 feet from the north line and 1,320 feet from the east line of the Joseph M. Crowley farm, N half NE Section 27, Vernon Township, Isabella County, and a location for No. 2 well, 2,310 feet from the south line and 1,650 from the west line of the John Brief and others farm, in the NW Section 22, same township. Old Dutch Refining Co. made a location on the Ben Loomis farm, Section 16, same township.

EASTERN FIELDS

(Continued from Page 49)

test in the same formation reaching the pay at 996 feet. It is also a fair well rating at over 500,000 feet a day.

Drilling in Ohio

In Perry County, the Ohio Fuel Gas Co. is down 3,000 feet on the William Berry farm, Section 15, Reading Township, and will be due in soon. In the same township but Section 11, the Mid-East Gas Co. is building a rig on the Homer Caywood farm. In Guernsey County, the Commonwealth Gas Corp. is rigging up for No. 3 on the J. W. Fowler farm, Section 10, Wheeling Township, and in the fair pool there. In Tuscarawas County the test of the Hopewell Fuel Gas Co. on the Leonida Meek farm, Lot 37, Washington Township, is down 3,100 feet.

In Morgan County, R. C. Whitener has about completed his No. 6 on the Cornelia J. Starrett farm in Deerfield Township. In Marion Township, W. S. Harris is drilling a second test on the F. A. Gifford and others lease in Section 13.

WEST VIRGINIA

One oil producer, with an initial production of 12 bbls., 9 gas wells, and 3 dry holes were reported from West Virginia. The producer was the second test of C. H. Cunningham and others on the Fred Delancy farm in Williams district, Wood County. It was drilled in at 1,129 feet and is showing for about 12 bbls. a day.

Gas Wells

Boone County was most active with three completions, all in Sherman district. There Godfrey L. Cabot completed his No. 48 on the Federal Coal Co. tract and has a good gas well rated at 1,000,000 feet a day. On the Pure Oil Co. lease on the Federal Coal Co. tract, that company completed its No. 53 which is a fair gas well showing for over 500,000 feet a day. Godfrey L. Cabot's No. 47 on his end of that tract was also completed and is a small producer making less than 100,000 feet a day.

With but one exception further progress in the active Calhoun County was disappointing. The exception was the test of Clem Morris and others on the Sarah E. Kersey farm which was drilled deeper to 2,077 feet and in the Maxon sand. The well is now showing for a fair gasser. This farm lies in Sheridan district. In the same district, C. B. Lewis and others drilled their test on the A. E Kenny farm to a depth of 2,400 feet and in the Berea sand which was found dry. The well will be abandoned. In Center district, W. A. Bickerstaff and others drilled a test on the W. A. Stallman farm in the Injun sand at 2,323 feet. It was also a dry hole and is shut down for orders.

In Kanawha County, the Winifrede Co. completed its No. 20 on the W. A. Bradford farm in Elk district in the Squaw and Wier sands. It will make a very light gas well. The same company completed No. 3 on its own property in Cabin Creek district with a showing for a fair gas well.

Mingo County had two completions. In Warfield district, Oscar Sears completed a test on the M. H. Waldron heirs farm in the shale at 3,118 feet. It will make a small gas well. In the same section the Mingo Martin Gas Co. completed a test on the G. R. C. Miles farm at a depth of 3,010 feet and in the shale formation. It is showing for over 200,000 feet a day.

In Lincoln County, the Martin Gas Co., drilling its No. 3 on the Elisha Bias heirs farm in Sheridan district, met a light flow of gas from the Big Injun at 1,915 feet. This well will be drilled deeper. In Nichols County, the Hamilton Gas Co. drilled its No. 34 and on the Henry McQueen farm in Hamilton district to a depth of 1,865 feet. It was found dry and is being abandoned.

Drilling in West Virginia

Among the new operations not previously reported are two tests to be drilled in Cabell County. D. R. Campbell and others are moving in materials to drill on the C. C. Dunn farm in Guyandot district. In McComas district, R. H. Adkins and others are building a road to a location on the B. S. Perry farm. In Lincoln County, the Kanawha Gas & Utilities Co. is moving in a rig to drill its No. 2 on the Jane Miller farm in Carrol district deeper, and in Jefferson district, the Cambridge Gas Co. is rigging up to do the same with its No. 2 on the A. M. Mullens farm.

In Cabell County, the Harshbarger Oil & Gas Co. has a rig standing on the Oscar and J. A. Conner farm in Grant district. In Barboursville district, the Sure Shot Torpedo Co. is moving in material for a test on its own property. In McComas district, the B. C. K. Gas Co. is drilling its test on the Lucas Ritezel farm and is down 1,100 feet, and the Madison Gas Co. has reached 2,800 feet in its second test on the Nelson Holton farm.

In Wirt County, Biddle and Backus have reached 400 feet on the Monroe Lewis farm in Clay district, and in the same section, Pollock and Myers are drilling a test on their own property. In Burning Springs district, Fred Morehead has started his No. 8 on the J. W. Heckman farm, and E. L. Shock and others have No. 10 on the W. H. H. Wheaton farm down 675 feet. In Reedy district, the Heck Oil Co. has the material on the ground for No. 5 on the H. W. Allen farm, and Bartlett and Boggess are drilling their test on the Stella Sheppard farm and have reached 2,200 feet.

In Logan County, Estep, Bland and others have reached 965 feet on the George C. Barker farm in Chapmansville district. In Logan district, the West Virginia Gas Co. has its No. 35 on the Dingus Run Coal Co. down 1,470 feet and its No. 36 down 480 feet. It has also prepared a location for another well. In Scott district, Putnam County, Wade Kirtley and others are drilling on the T. C. Erskine farm and have driven down to 1,200 feet.

In Wayne County, the Chartiers Oil Co. is down 2,415 feet on the Freeland Thompson farm in Butler district. In Stonewall district, Meabon and Huffman have reached 1,700 feet on the Jones heirs farm. In Lincoln district, the Owens Illinois Bottle Co. has a location on the T. A. Copley farm. In the same district, the Wayne United Gas Co. has two wells drilling, No. 40 on the A. W. Wilson heirs lease at 1,720 feet, and No. 49, same tract, at 250 feet and a fishing job on hand. In Stonewall district, this company has No. 51 and on the Newcomb tract drilling at 1,235 feet and No. 50 on the Hoard Baldwin farm drilling at 1,200 feet. Two additional locations have also been prepared on this lease.

In Mopongalia County, the Pedlar Run Oil Co. is down to 2,540 feet on the Lewis R. Mess farm in Clay district. In Morgan district, the Carnegie Natural Gas Co. has built a rig for a wildcat on the George Davison farm. In Battelle district, the Crestline Oil & Gas Co. has a test on the Owen Hennen farm down 800 feet. In Clay County, Henry district, W. C. Wilson and others have run into trouble with their test on the A. B. Hersman farm with a caving in. In Pleasants County, G. W. Tice has a fishing job in his test on the Hugh Morris farm in Union district.

SOUTHWEST PENNSYLVANIA

There were no completions in Southwest Pennsylvania and few wells drilling. In East Finley Township, the West Virginia Natural Gas Co. is building two rigs, one on the S. W. Stout farm, and one on the Susan Stout farm. Both will be tests. In Chartiers Township, a local syndicate is down 1,400 feet on the A. Woodruff farm. Bungard & Co. are down 400 feet in a second well on the R. C. Clark farm in South Franklin Township. All of the above are in Washington County.

In Allegheny County, the Schied Carey Co. has reached 750 feet on the James H. Kennedy farm in Pine Township. In McCandless Township, the E. A. Bream Co. is drilling No. 6 on the Wallace heirs farm and is down 500 feet.

LA.-ARK. FIELDS

(Continued from Page 36)

9-2e, drilling in black shale at 4,311 feet; Tensas Parish, L. A. Duvall and others' No. 1 Martin Jacob, Section 1-13-11, drilling in shale at 2,800 feet; Caddo Parish, the United Gas Public Service Co.'s No. 1 Bussa, Section 33-23-16, in the Trinity gas area of Rhodessa, is nearing the pay horizon in red and blue shale at 4,250 feet.

Daily Average Runs

The fields of North Louisiana and Arkansas declined 830 bbls. during the week. Daily average runs from the several pools were:

NORTH LOUISIANA

	Bbls.
Caddo, light	6,065
Caddo, heavy	1,565
Cotton Valley	360
DeSoto and Red River	2,185
Elm Grove	375
Haynesville	4,590
Holly	390
Homer	2,780
Pleasant Hill	345
Sarepta-Carterville	870
Urania	3,670
Zwolle	5,695
Total North Louisiana	28,890
Total previous week	29,510
Decrease	620

ARKANSAS

Champagnolle	2,000
El Dorado	3,060
Lisbon	580
Nevada	1,100
Smackover, light	3,100
Smackover, heavy	26,470
Stephens	700
Urbana	750
Total Arkansas	37,760
Total previous week	37,970
Decrease	210
Total both states	66,650
Total previous week	67,480
Decrease	830

KANSAS FIELDS

(Continued from Page 34)

ett, C NE, Section 22-29-21w, has been abandoned at 6,206 feet.

Franklin County

Fielder & Whiteside's No. 1 Huddleston, NE cor. NW, Section 30-16-17, is dry and abandoned at 1,255 feet.

McPherson County

Twin Drilling Co. and others' No. 1 Gratton, SW cor. SE, Section 19-19-1w, has been deepened to 3,436 feet and completed for a potential of 794 bbls. on the pump. Abilene Oil Co. and Shell Petroleum Corp.'s No. 1 Hindmarsh, SW cor., Section 20-19-1w, has been completed for 812 bbls. potential from Viola lime at 3,425-37 feet. Harris & Haun's No. 1 Bair, NW cor. NE, Section 28-19-1w, topped chat at 2,913 feet, drilled to 2,970 feet and has been completed for 10,500,000 feet of gas. Mid-Kansas Oil & Gas Co.'s No. 2 Unruh, SW cor., Section 25-19-2w, has been completed for a potential of 2,469 bbls. in Viola lime at 3,366-80 feet.

Morris County

Cress and others' No. 1 Peterson, C NE SW, Section 33-16-7, is spudding.

Russell County

The Texas Company's No. 1 Leonard, NW cor., Section 6-13-15w, an old well, is drilling deeper at 3,080 feet. No. 1 Jacobs, SW cor., Section 31-12-15w, has been deepened to 3,075 feet and completed for 175 bbls. in sand 3,040-65 feet.

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Continued from Page 36)

Mack Jourden Co.'s No. 1 Lockett, 4,035 ft. S, 1,030 ft. E, NW cor. SW, Sec. 29, in Sec. 32-12-10 ..... S.D. 2,550 ft.

RICHLAND PARISH

Alto Gas Co.'s No. 2 Hunt, 660 ft. S and E, NW cor., Sec. 13-17-5 ..... Derrick.
National Gas Co.'s No. 1 Singletary, 1,980 ft. N, 660 ft. W, SE cor., Sec. 20-18n-7e ..... S.D. 2,515 ft.
Southern Carbon Co.'s No. 1-B C. M. Noble, 2,966 ft. N, 1,525 ft. W, cor. Secs. 7, 8, 17 and 18, in Sec. 37-15-6 ..... Location.

SABINE PARISH

W. M. Coate's No. 1 Stille, 330 ft. N, 660 ft. W, SE cor., Sec. 35-8-13 ..... Derrick.
Davidson & Grigsby's No. 1 Martinez, Sec. 2-7-13, 330 ft. S and W, NE cor. NW SE ..... Derrick.
Diffie & Barnett's No. 1 Lites (was J. W. Clark's), 330 ft. N, 330 ft. W, SE cor. SW NW, Sec. 34-8-11 ..... S.D. 105 ft.
R. L. Gay, tr.'s No. 1-A Long Bell Lbr. Co., 430 ft. S, 200 ft. W, NE cor. NW NW, Sec. 10-8-13 ..... S.D. for wtr. 2,753 ft.
Gehrig Oil Co.'s No. 1 Skinner, Sec. 16-8-11, 615 ft. E, 565 ft. S, NW cor. NW ..... Set 10-in. 104 ft.
W. M. Coates' No. 1-A Bowman-Hicks, 330 ft. S and E, NW cor. SW SW, Sec. 18-7-13 ..... Set 6-in. 2,160 ft.
Langbridge Oil Co.'s No. 1 Stephens, 330 ft. N and E, SW cor. SE NE, Sec. 17-9-11 ..... Completed flowing 40 bbls. at 3,369 ft.
T. M. LeGrand's No. 1 Peterson, 330 ft. N and E of C, Sec. 34-7-13 ..... Arranging to set 6-in. 2,243 ft.
J. J. Keen, tr.'s No. 1 Belton (no check), Sec. 31-9-13 ..... S.D. 2,039 ft.
A. H. Thames' No. 1 Edward est., 150 ft. NW SE cor. NE SE, Sec. 8-8-13 ..... S.D. 1,200 ft.

TENSAS PARISH

U. A. Duvall et al's No. 1 Martin Jacob, 150 ft. S, 150 ft. W, NE cor., Sec. 1-14-11e ..... Drlg. shale 2,800 ft.
A. R. Willis et al's No. 1 Currey, 1,320 ft. S, 1,320 ft. E, NW cor., Sec. 39-11-12 ..... S.D. 3,545 ft.

UNION PARISH

Dan Brooks' No. 1 Odus Douglas, 330 ft. S and E, NW cor. NE SW, Sec. 9-22-2 ..... Dry and abd. 3,509 ft.

ARKANSAS

CHICOT COUNTY

R. R. Smith's No. 1 Lytle, 660 ft. N, 660 ft. E, C, Sec. 21-23-3 ..... T.A. 2,975 ft.

COLUMBIA COUNTY

Kendall Oil Co.'s No. 1 Fullenweider, Rhea & Kitchen, Sec. 13-17-22 ..... Tested dry; show of oil 814 ft.

CLAY COUNTY

S. C. Jeffus' No. 1 Underwood, 510 ft. N, 350 ft. W, C, NW SE, Sec. 4-20-5 ..... S.D. 1,280 ft.

CLEVELAND COUNTY

Crum & Stillwell's No. 1 E. R. Bell, Sec. 10-10s-12w ..... Rigged up and S.D.

CLEBURNE COUNTY
(Cable tools)

Donnelly-Craver et al's No. 1 Donophan Lbr. Co., SE cor. NW, Sec. 33-11-9 ..... S.D. 3,740 ft.

CRAWFORD COUNTY

Ozark Nat. Gas Co.'s No. 1 Hammond, C SE SE, Sec. 29-10-29 ..... Drlg. shale 1,675 ft.

DALLAS COUNTY

E. C. Brewer's No. 1 W. E. Hillman, 330 ft. E, 40 ft. S, NW cor. SE NE, Sec. 20-10-13 ..... S.D; W.O. 2,869 ft.
J. H. James, tr.'s No. 1 Fordyce Lbr. Co., 200 ft. S, 200 ft. E, NW cor. NE, Sec. 11-9-15 ..... S.D. funds 2,520 ft.
Zepp O. & G. Co.'s No. 2 Hillman, 450 ft. E, 340 ft. S, NW cor. SE NE, Sec. 10-20-13 ..... Coring 2,656 ft.

HOT SPRINGS COUNTY

Star Oil Co.'s No. 1 Cunningham, 285 ft. S, 285 ft. W, NE cor., Sec. 11-5-16 ..... S.D. 1,300 ft.

LINCOLN COUNTY

Lawrence Cook, tr.'s No. 1 McGhee Planting Co., 420 ft. S, 200 ft. W, NE cor. NE SW, Sec. 5-8-7 ..... Fishing D.S. 2,800 ft.

LITTLE RIVER COUNTY

Roberts Oil Co.'s No. 1 H. J. Russell, 330 ft. E, 330 ft. S, NW cor., Sec. 25-12-19 ..... Location.
Stephens et al's No. 1 Dierke Lbr. Co., Sec. 29-12s-31w, 150 ft. S, 330 ft. E, NW cor. NE NW ..... Rigging up.

LOGAN COUNTY

J. H. Flowers' No. 1 J. H. White, Sec. 13-6-26 ..... S.D.; W.O. 3,570 ft.

MILLER COUNTY

W. E. Noel et al's No. 1 Dickson hrs., 1,980 ft. W, 660 ft. S, NE cor., Sec. 11-20-27 ..... S.D. 1,955 ft.

OUACHITA COUNTY

Bolin & McLeon's No. 1 L. D. Nealy, 150 ft. S, 150 ft. W, NE cor. SE SW, Sec. 35-16-15 ..... 600 ft. oil in hole 2,112 ft; W.O. S.R.
Copenhaven et al's No. 2 Berg, C SE SE, Sec. 13-15-17 ..... S.D. for funds 532 ft.
M. S. M. Oil Co.'s No. 4 Arnold & Doyle, Sec. 23-16-15, 200 ft. S and E, NW cor. SW SE ..... Set 10-in. 100 ft; drlg. 950 ft.

PIKE COUNTY

E. R. Henderson's No. 1 Tilyou, 660 ft. W, 500 ft. S, NE cor. NE SE, Sec. 26-8-14 ..... T.A. 2,909 ft.
E. R. Henderson's No. 1 J. L. Lee, 400 ft. S, 350 ft. E, NW cor. SW SE, Sec. 31-8-24 ..... S.D; W.O. 1,020 ft.
E. R. Henderson's No. 1 W. B. East, 200 ft. S, 150 ft. W, NE cor., Sec. 13-9-23 ..... S.D. 338 ft.

PRAIRIE COUNTY

Powell Creek O. & G. Co.'s No. 1 Kloss, NE SW, Sec. 3-4n-6w ..... Partly rigged up and S.D.

SCOTT COUNTY

Heavener O. & G. Co.'s No. 1 Riser, Sec. 36-4-26 ..... S.D; T.D. 1,436 ft.
Waldron O. & G. Co.'s No. 1 White, NE cor. SW NW, Sec. 17-3n-29 ..... S.D; waiting on csg. 1,860 ft.

SEVIER COUNTY

Tristate Oil Co.'s No. 1 McCown, Sec. 34-8-32, S½ SW ..... Rigging up.

UNION COUNTY

Drillers Oil & Dev. Co.'s No. 1 Pickering, 220 ft. N, 668 ft. E, SW cor. NW NE, Sec. 1-17-16 ..... Drlg. plug 2,128 ft.
H. H. Heims' No. 1 C. H. Murphy, NE cor. NW NE, Sec. 31-16-14 ..... Rigging up.
Joe Modisette et al's No. 1 W. D. Webb, Sec. 6-18-13, NE cor. NW SE ..... Set 10-in. 137 ft; drlg. 1,685 ft.
Sunby et al's No. 2 Perdue, Sec. 33-16-14, 75 ft. S, 150 ft. E, NW cor. Sec. ..... W.O. 3,247 ft.

WASHINGTON COUNTY
(Cable tools)

C. H. Willoughby's No. 1 Jones, Sec. 34-16-30 ..... S.D. for funds 1,795 ft.

YELL COUNTY
(Cable tools)

Tegmeir & Luckett's No. 1 Falcon, Sec. 36-7-21 ..... S.D. 5,710 ft.

EAST TEXAS

BOWIE COUNTY

Hindeman & Bell's No. 1 Merritt (was Maud-Redwater Oil Co.'s), 175 ft. N, 175 ft. E, SE cor. G. W. Hardidge 100-ac. tr. on Floyd Merritt tr. in Y. S. McKinney Sur. ..... S.D. 3,310 ft.
Logan & Elliott's No. 1 Smith, 9,600 ft. S, 2,500 ft. W, NE cor. Chas. Lewis Sur. ..... S.D. 4,505 ft.
Tarkington & Jones' No. 1 W. W. Whybark, 200 ft. S, 200 ft. W, SW cor. J. H. Dyer Sur. ..... Drlg. 1,510 ft.
Lee Timberlake et al's No. 2 Tidwell, 2,510 ft. N, 655 ft. W, SE cor. T. M. Rice Sur. ..... S.D. 3,000 ft.

CAMP COUNTY

McDonald Bros.' No. 1 Tillery, 150 ft. E, 450 ft. S, NW cor. 127-ac. tr. in J. H. Murphy Sur. ..... S.D. 3,600 ft.

CASS COUNTY

J. F. Morrisey's No. 1 T. J. Wilson, 1,088 ft. S of N line, 2,376 ft. E of W line of H.R.S., J. R. McFarland Sur. ..... S.D. 3,670 ft.
Davis & Pigg's No. 1 Roy Brian, SW cor. Roy Bryan 88-ac. tr., Albert H. Latimer Sur. ..... S.D. 2,055 ft.
Everets Drlg. Co.'s No. 1 H. W. Whittington, 200 ft. S and W, NE cor. 69-ac. Whittington tr., L Strong Sur. ..... S.D. 3,922 ft.
Geo. McKamie's No. 1 R. E. Hall, 150 ft. N, 150 ft. W, SE cor. Hall's 117-ac. tr., H. Buckler Sur. ..... S.D. 4,195 ft.
C. E. Murdock's No. 1 First National Bank, Evans Watson Sur. ..... S.D. 4,390 ft.
John C. Rogers' No. 1 I. E. Lanier, 573 ft. N, 879 ft. W, SE cor. Lanier 86 ac. in K. E. Welborn Sur. ..... S.D. 2,280 ft.
John C. Rogers et al's No. 1 W. Q. Henderson, 3,100 ft. S, 3,100 ft. E, NW cor., Wm. Davis Sur. ..... S.D. 955 ft.
United North & South Co.'s No. 1-A Nickelberry, W. A. Irvin Sur., 300 ft. S and E, NW cor., Nickelberry 50-ac. tr. ..... S.D. for fuel 3,548 ft.

HARRISON COUNTY

Lloyd Oil Corp.'s No. 1 E. S. Timmons, 150 ft. from N line to 250 ft. from E line of 105-ac. tr., Findley Sur. ..... S.D. 3,432 ft.
Ryan Consolidated Pet. Corp.'s No. 1 J. M. Fuhr, 1,300 ft. N of NW cor. T. J. Copelin Sur., 1,675 ft. SW at right angles to NW SE line of O'Neal Sur. ..... Derrick.

MARION COUNTY

Gist, Claunch & Dodson's No. 1 Miller, 1,470 ft. E line, 725 ft. N line, SW cor. H. Fulgran H.R. Sur. ..... S.D. 300 ft.
Geo. Hindeman et al's No. 1 F. V. Lindsey, 2,500 ft. S, most northerly N line, 3,555 ft. E most easterly W line, Alexander Albright Sur. ..... S.D. 2,380 ft.

PANOLA COUNTY

Hoffer et al's No. 1 Cameron Lbr. Co., center 1,306-ac. tr. in W. M. A. LaGrove Sur. ..... Derrick.
Moses & Wallace's No. 1 Daniel, 600 ft. N and W lines, Mrs. Gerrell 100-ac. tr., SW cor. Isabel Hanks Sur. ..... Spudded and S.D.
G. A. Davidson's No. 1 Latham, Wm. Rich Sur. ..... Drlg. 940 ft.
J. L. Nelson et al's No. 1 J. W. Williams, 300 ft. S, 700 ft. W, NE cor. Williams' 67-ac. tr. in Jas. Hanks Sur. ..... S.D. 2,250 ft.
United Gas Public Service Co.'s No. 11 Werner, 1,162 ft. N, 2,418 ft. W, SE cor. D. B. Lewis Sur. ..... Drlg. 4,518 ft.

RED RIVER COUNTY

D. M. Buffington's No. 1 Hossler, E. Hughhart Sur. ..... S.D. 2,795 ft.
Johnson Pet. Co.'s No. 2 Randolph, Edw. Dean Sur. ..... S.D. 2,280 ft.

SHELBY COUNTY

E. L. Chapman's No. 1 Pickering Lbr. Co., C. E. Henry (headright) ..... Set 5 3/16-in. 3,102 ft.
Chapperell Oil Co.'s No. 2 Holt, Matthew Moore Sur. ..... S.D. 3,127 ft.
K. H. Francis' No. 1 John Mims, Mary Smith Sur. ..... Reaming 2,710 ft.
H. H. Gracey's No. 1 J. A. Morrison, 1,500 ft. N, 300 ft. E, SW cor. J. A. Morris' 109-ac. tr., Wm. English Sur. ..... S.D. 2,600 ft.
Henry Maulding's No. 1 Frost Lbr. Co., NE cor. Frost Lbr. Co.'s 80-ac. tr., A. D. Fountain Sur. ..... Reaming 3,315 ft.
McRoby et al's No. 1 Windham, Wm. Leach Sur., on Windham 296-ac. tr. ..... Coring 2,608 ft.
Ridgeway et al's No. 1 Polley, Domingo Gonzales Sur., 3,180 ft. E of SW cor., 160 ft. N at right angles of Polley 457-ac. tr. ..... Arranging to set surface csg.; T. D. 405 ft.
A. D. Smith's No. 1 Y. D. Carroll-J. A. Parker Sur., 1,500 ft. N, 300 ft. W, SE cor. J. A. Carroll Sur. ..... S.D. 3,240 ft.
C. H. Tautenhahn's No. 1 J. C. Bogard, 300 ft. S, 900 ft. E, NW cor. J. C. Bogard's 52-ac. tr., Thomas Baker Sur. ..... S.D. 20 ft; waiting on D.S.
Tenant et al's No. 1 J. Henry, C. Z. Walker Sur. ..... S.D. 3,457 ft.
United North & South Prod. Co.'s No. 1 Windham, 800 ft. W, 1,050 ft. N, SE cor. of Windham 171.5-ac. tr. on A. H. English Sur. ..... Fishing for D.S. 2,300 ft.

LOUISIANA-ARKANSAS PROVEN AREAS

(Continued from Page 36)

O. A. Gautier et al's No. 1 Mischell, 330 ft. E, 150 ft. N, SW cor. SE NW, Sec. 30-8-12 ..... S.D; W.O. 2,532 ft.
Hawkins & Antoon's No. 1 Newton, Sec. 1-7-11 ..... W.O.S.R. 2,609 ft.
Hudson & Bird's No. 1 Walden, 480 ft. N, 300 ft. E, SW cor. SW NE, Sec. 26-8-11 ..... S.D. 1,800 ft.
M. J. Kissick's No. 1 Brown Lbr. Co., Sec. 1-7-11, 1,070 ft. S, 1,225 ft. E, NW cor. NE ..... Drlg. 600 ft.
Lanier & Dyer's No. 1 Barthold, 335 ft. N, 525 ft. E, SW cor. SE NE, Sec. 35-8-12 ..... Completed for 10 bbls., 2,531 ft.
Zeke Lohman's No. 1 McCormick, 660 ft. E, 330 ft. N, SW cor. NE SW, Sec. 2-7-11 ..... S.D. 1,606 ft.
Loring Oil Co.'s No. 18 Bowman-Hicks, 1,280 ft. S, 275 ft. E, NW cor. SW NW, Sec. 15-7-12 ..... Drlg. 3,970 ft.
Lyons & Neely's No. 3 Byrd, Sec. 1-7-11 ..... S.D. 400 ft.
L. K. McGuffin's No. 1 Bush, NW cor. NW SE, Sec. 1-7-11 ..... S.D. 400 ft.
Ben Merritt, tr.'s No. 2 Byrd, Sec. 1-7-11 ..... S.D. 88 ft.
Ohio Oil Co.'s No. 12 Bowman-Hicks, Sec. 2-7-12, 150 ft. N and W, SE cor. NE NE ..... Drlg. 1,500 ft.
H. W. Perritt's No. 5 Bowman-Hicks, 330 ft. S, 410 ft. E, NW cor. SW SW, Sec. 2-7-12 ..... Dry and abd. 2,437 ft.
H. W. Perritt's No. 6 Bowman-Hicks, Sec. 2-7-12, 150 ft. S and W, NE cor. SE NE ..... Derrick.
Eddie Self's No. 2 Jacob, Sec. 1-7-11 ..... S.D. for wtr. 1,860 ft.
Stovall, tr.'s No. 2 Nulton, 241 ft. N, 330 ft. W, SE cor. NE NW, Sec. 1-7-13 ..... Set 6-in. 2,059 ft.

UNION PARISH

Interstate Nat. Gas Co.'s No. 27-C Howard, 660 ft. S and E, from C, Sec. 32-20-3e ..... Set 8-in. 796 ft.
Nemours Corp.'s No. 1-C Harrell, Sec. 7-20-4e, 1,980 ft. S and E, of NW cor. ..... Set 12½-in. 140 ft; 8-in. 850 ft; drlg. 1,527 ft.
Stovall Gas Co.'s No. 2 Howard, Sec. 32-20-3e, 1,320 ft. S, 1,980 ft. W, NE cor. ..... Set 8-in. 832 ft.

ARKANSAS

UNION COUNTY—EL DORADO

Lion O. & R. Co.'s No. 9-A G. P. Hayes, 242 ft. S, 246 ft. W, NE cor. Lot 5, NE, Sec. 4-16-15 ..... D.S. stuck 6,071 ft.
Southern Prod. Co.'s No. 1 Wingfield, NE cor. SE NW, Sec. 16-19-15 ..... S.D. 2,608 ft.

UNION COUNTY—URBANA

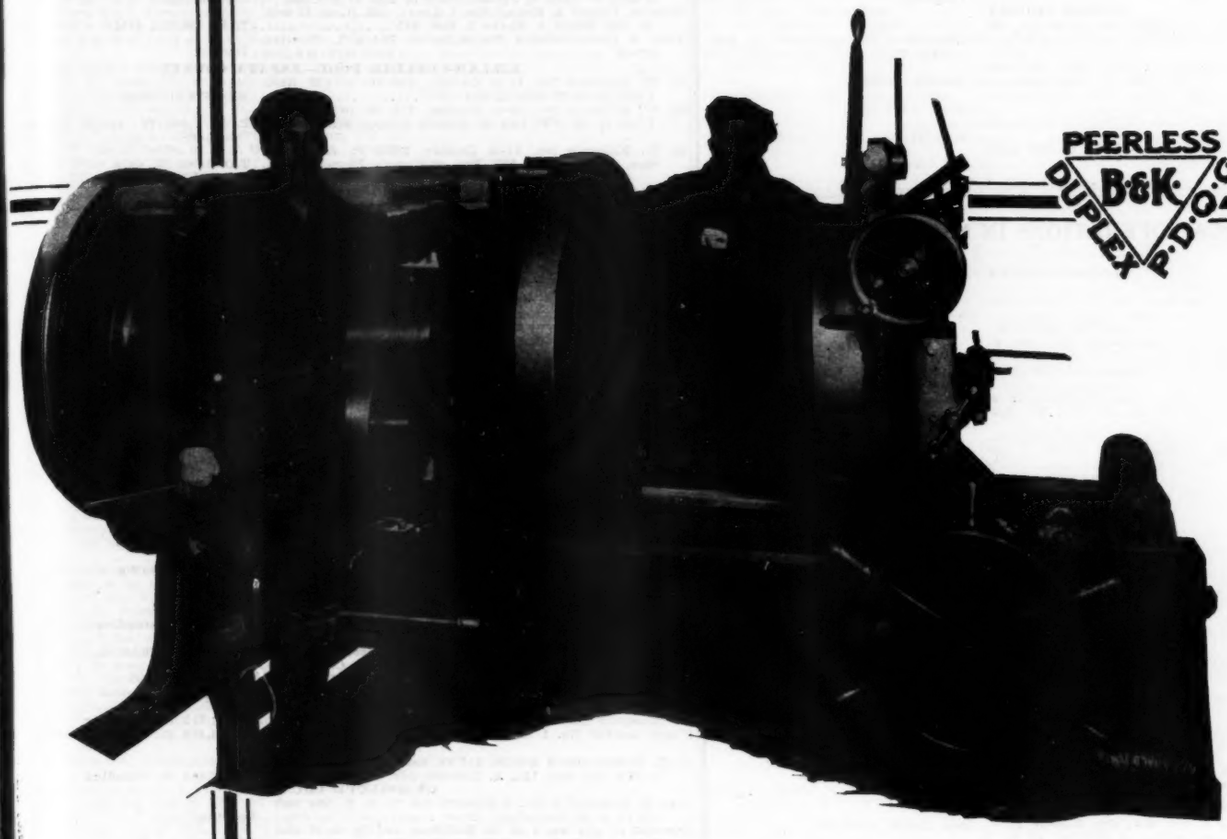
Marine Oil Co.'s No. 1 Winn est., 330 ft. S and E, NE cor. S½ NW, Sec. 11-18-13 ..... T.A. 3,586 ft.
Marine Oil Co.'s No. 2-E Thompson, 330 ft. N, 330 ft. E, SW cor. NE NE, Sec. 10-18-13 ..... Location.
Wilson & Chapman's No. 1-B Hadley, Sec. 3-18-13, 330 ft. S and W, NE cor. SE NW ..... Set 10-in. 300 ft; drlg. 1,510 ft.

EAST TEXAS

PANOLA COUNTY

Daisy O. & G. Co.'s No. 1 Rucks, Jno. Palmer Sur. ..... S.D. 3,270 ft.
Dillon & Braham's (was W. G. Banks et al's) No. 1 C. O. Baldwin, 1,395 ft. W, 1,362 ft. S, NE cor. Baldwin 290 ac. in Hampton West Sur. ..... S.D. 1,555 ft.

Leakproof threads under all conditions!



PEERLESS B&K DUPLEX P·D·O·G

THERE is a decided preference among practical, experienced men for Bignall & Keeler Threading Machines. In the shop or out in the open field they stand up and take the punishment. They grind out accurate, finished work at a pace that means profits. Simple and foolproof—even an unskilled man can turn out excellent work with B & K machines. Many of them have been on the job for 20 years or more and are still doing perfect work. The Peerless dies reduce friction, and produce at one pass, the clean-cut, long-tapered threads that mean tight joints.

Let us send you our catalog. One of the 17 different types of B & K machines is certain to fit your needs.

Bignall & Keeler Machine Works

of the N. O. Nelson Mfg. Co.

EDWARDSVILLE, ILLINOIS

OGJ 11-5 Gray

Nat. Gas Prod. Co.'s No. 8 Floyd, 50 ft. S and 100 ft. W from No. 1 Floyd, Ben C. Jordan Sur. ..... Rigging up.
United Prod. Corp.'s No. 17 Steele, 1,320 ft. N, 660 ft. W, SE cor. C. D. Steele lse., in B. C. Jordan Sur. .. Location.
Southwestern O. & G. Co.'s No. 1 E. R. Vinson, 3,005 ft. S, 1,001 ft. W, NE cor. C. T. Anderson Sur. .... Dry and abd. 2,650 ft.

MISSISSIPPI

HINDS COUNTY

Ferguson-Fuller et al's No. 1 Sours et al, Sec. 34-6n-1e, 665 ft. E, 50 ft. S, NW cor. SW ..... Rigging up.
Howie & Howie's No. 1 fee, Sec. 34-6-1e, 400 ft. E, 570 ft. S, NW cor. SW SW ..... Derrick.
McGuire et al's No. 1 Motor, Sec. 12-5-1e, 1,763 ft. N, 1,300 ft. W, SE cor. Sec. ..... Rigging up.
Millsaps College's No. 1 fee, Sec. 34-6n-1e, 2,225 ft. N, 1,412 ft. W, SE cor. Sec. ..... Location.

RANKIN COUNTY

James Alexander, tr.'s No. 1 Wright Cast Stone Co., 200 ft. S, 1,460 ft. NE cor. NE NW, Sec. 13-5n-1e ..... Completed for 40,000,000 ft. gas, 2,423 ft.
Cummins & Montgomery's No. 1 Ivey, Sec. 13-5n-1e, NE Lot 10, Blk. D, E. Jackson Pl., first addn. .... Derrick pattern.
J. E. Grandstaff et al's No. 1 East, Sec. 13-5n-1e, 1,-180 ft. W and 515 ft. N, SE SW ..... Drlg. 2,172 ft.
Muse & Muse's No. 1 Seany, Sec. 12-5n-1e, 2,670 ft. E, 375 ft. S, NW cor. SW ..... Rigging up.
Orr's No. 1 Casey, Sec. 13-5n-1e, 540 ft. E and 1,920 ft. S, NW cor. SW ..... Set 6⅝-in. 2,412 ft.

WILDCAT OPERATIONS IN MISSISSIPPI

CLARKE COUNTY

Company, farm and location—	Remarks:
Gulf Ref. Co.'s No. 1-A Long Bell Lbr. Co., C SW SW, Sec. 10-2n-16w	Set 6⅝-in. 3,675 ft; T.D. 3,700 ft.

HINDS COUNTY

Hilgard Gas Co.'s No. 1 The Mississippi Co., Sec. 4-5n-1e, 1,300 ft. E and 450 ft. N of cen. of Sec. ..... S.W. and abd. 2,551 ft.
Howard Oil Co.'s No. 1 Jackson College, C NW NW, Sec. 9-5-1e ..... S.D. 74 ft.
Southern Pet. Co.'s No. 1 Wilson (was Tri-State O. & G. Co.'s), 320 ft. E, 240 ft. N, SW cor. SE NE, Sec. 28-6-1e ..... S.D. 20 ft; W.O.
F. E. Stewart et al's No. 1 Miss. Cotton Seed Products Co., Sec. 4-5n-1e, 320 ft. S and 440 ft. W of NE cor. SE ..... Derrick.

HUMPHREYS COUNTY

Danciger O. & G. Co.'s No. 1 Belgrade Lbr. Co., C NW, Sec. 29-14n-4w ..... Drlg. 2,480 ft.

JASPER COUNTY

Bay Springs Pet. Co.'s No. 1 Keyes, C NW NE, Sec. 2-12-9 ..... S.D. 2,360 ft.

LOWNDES COUNTY

Lowndes County Oil & Dev. Co.'s No. 1 Carr est., Sec. 34-17-16e, 1,320 ft. E, 330 ft. S, NW cor. Sec. ..... Derrick.

MONROE COUNTY

Amory Dev. Co.'s No. 1 Bourland, Sec. 2-13-19 ..... S.D. 3,015 ft.
McAlpine et al's No. 1 Cowart, second hole, Sec. 2-12-19.. Drlg. lime 3,672 ft.

NEWTON COUNTY

Bob Dalton's No. 1 Majure, 400 ft. N, 300 ft. E of SW cor. SE, Sec. 35-6n-11e ..... S.D. 847 ft.

NOXUBEE COUNTY

Thompson & Donohue's No. 1 Donohue, Sec. 25-16n-17e.. Testing 1,735 ft.

RANKIN COUNTY

Attkisson & Dyer's No. 1 Valentour, 200 ft. S, 200 ft. E, NW cor., Sec. 18-5n-3e ..... S.D. 1,390 ft.
Gulf Ref. Co.'s No. 1-A Hanna, Sec. 23-6n-1e ..... Set 9-in. 2,565 ft.
Majestic O. & G. Co.'s No. 1 Elton Lbr. Co., Sec. 10-4n-3e. Derrick.
Square Deal O. & G. Co.'s No. 1 Spann, NW cor. SE NE, Sec. 13-5n-1e ..... S.D. 2,495 ft.
United Gas Public Service Co.'s No. 1-A McLaurin, 1,-950 ft. E, 660 ft. S, NW cor. SW, Sec. 8-5n-2e ..... Drlg. chalk 2,844 ft.
Willis & Culley's No. 1 Applewhite & Holden, 10 ft. N, 60 ft. E, SW cor., Sec. 12-5n-1e ..... Completed for 4,000,000 ft. gas, 2,-381 ft.

SCOTT COUNTY

M. U. Culley et al's No. 1 Owens, Sec. 2-5-9 ..... Derrick.

WARREN COUNTY

Eagle Bend O. & G. Co.'s No. 1 Kiger, SW cor. SW SE, Sec. 9-18-2 ..... S.D. 2,607 ft.
United Gas Public Service Co.'s No. 1 Tchula Co-Operative Store, 1,980 ft. W, 660 ft. N, SE cor. SE, Sec. 33-15n-3e ..... Coring 2,992 ft.

WEBSTER COUNTY

P. J. McAlpine's No. 1 Henly (was Cumberland Oil Co.'s No. 1 Henly), SE NW, Sec. 15-21n-11e ..... S.D. 1,800 ft.

WINSTON COUNTY

Miss. Drlg. Co.'s No. 1 Scarbrough, NW cor., Sec. 15-12-14 ..... Drlg. 4,041 ft.

SOUTHWEST TEXAS PROVEN AREAS

(Continued from Page 40)

WALSH POOL—JIM WELLS COUNTY

Larcro Pet. & Gas Co.'s No. 2 Wade, 600 ft. S of No. 1.. T.D. 2,929 ft; set csg.

HENNE-WINCH-FARISS POOL—JIM HOGG COUNTY

O. W. Killam's No. 2 Lopez, 150 ft. to E line, 380 ft. to N line of Sur. 255 ..... Derrick.

CARTWRIGHT POOL—LIVE OAK COUNTY

Houston Oil Co.'s No. 14 Cartwright, 1,000 ft. W of No. 23 Cartwright ..... T.D. 5,400 ft; standing.

CHITTIM POOL—MAVERICK COUNTY

Texas Gas Utilities' No. 8 Chittim, 24 ft. S of No. 7 Chittim ..... T.D. 4,350 ft; drlg.

SAXET FIELD—NUECES COUNTY

Gulf Coast Oil Co.'s No. 1 Sagarin ..... T.D. 4,395 ft; drlg.
Gulf Coast Oil Co.'s No. 1 Elder, NW of same company's No. 1 Harrell ..... T.D. 4,897 ft; set csg.
Neal-Milton and Kepley Pet. Co.'s No. 1 J. N. Roark, 200 ft. to S line, 200 ft. to E line of 106-ac. tr. ..... T. D. 4,836 ft.; resetting liner.

Saxet Oil Co.'s No. 1 McCampbell, 600 ft. from N and 1,900 ft. to W lines of tr. ..... T.D. 2,545 ft; drlg.
Southern Drlg. Co.'s No. 1 Alexander, 200 ft. to S line, 150 ft. to E line of farm ..... T.D. 4,872 ft; drlg.
Saxet Oil Co.'s No. 3 Donigan, north offset to Zoch's No. 1 Baldwin ..... Location.

WELDER FIELD—SAN PATRICIO COUNTY

Welder Oil Corp.'s No. 3 Welder, 800 ft. NE of No. 2 Welder ..... T.D. 3,671 ft; set csg.

WHITE POINT POOL—SAN PATRICIO COUNTY

Saxet Oil Co.'s No. 18 Rachel ..... Rigging up.

LOS OLMOS POOL—STARR COUNTY

Los Olmos O. & G. Co.'s No. 1 Seabury, 1,500 ft. to S line, 175 ft. to E line of 636-ac. tr. in Porcion 75.... T.D. 366 ft; set csg.; waiting on cmt.
L. L. Smith No. 1 Kelsey-Bass, Blk. 8 sub. Porciones 76, 76, 77, Jurisdiction of Camargo ..... Location.

CAROLINA-TEXAS POOL—WEBB COUNTY

Carolina-Texas O. & G. Co.'s No. 10 Barnsley, 150 ft. to E line, 200 ft. to S line of Blk. 14, Sur. 263..... Derrick.
E. A. Sterling & Co.'s No. 1 de la Garza, 150 ft. from N and W lines of Blk. 30, Sur. 336 ..... T. D. 2,208 ft.; waiting on cement.

COLE POOL—WEBB COUNTY

O. W. Killam's No. 22 Bruni, 1,755 ft. to SW line, 186 ft. to NW line, Sec. 9 ..... Derrick.

ESCOBAS POOL—ZAPATA COUNTY

Pray & Chamberlain's No. 4 Garza, Blk. 1, Comitas grant. Making location.
E. K. Bateman's No. 1 M. Garza, in Comitas grant, 200 ft. to NW line, 660 ft. to NE line of Blk. 29..... Rigging up.
Trevino Oil Corp.'s No. 12-A Trevino, 665 ft. to S line, 550 ft. to W line of Blk. 15, Sur. 412..... T. D. 1,225 ft.; waiting on cement.
Grayburg Oil Co.'s No. 1 F. G. Martinez, 150 ft. from S and W lines of 240-ac. tract in E½ of Sur. 4..... Rigging up.
Newton, Owens & Evans' No. 1 Garza, 200 ft. to N and W line Block 4, Share 1, Sur. 161 ..... T. D. 150 ft.; drlg.
Pray & Chamberlain's No. 4 Garza, Block 1, Comitas grant ..... Derrick.

KILLAM-CUELLAR POOL—ZAPATA COUNTY

O. W. Killam's No. 45-B Cuellar, 610 ft. to SW line, 5,340 ft. to E line of Sur. 277 ..... T.D. 630 ft; drlg.
O. W. Killam's No. 30-A Cuellar, 570 ft. to NE line, 1,720 ft. to NW line of Cerrito Blanco grant..... T. D. 1,522 ft.; tested dry; drlg. deeper.
O. W. Killam's No. 31-A Cuellar, 3,350 ft. from NE line, 475 ft. from NW line of Cerrito Blanco grant.. T.D. 1,365 ft; drlg.

CHARCO REDONDO POOL—ZAPATA COUNTY

Bob & Richey's No. 25 Martinez, 1,300 ft. from NE line, 1,090 ft. from SE line, Block 24, Dukes sub. Charco Redondo grant ..... Location.
Bob & Richey's No. 26 Martinez, 1,460 ft. to NE line 855 ft. to NW line, Block 24, Duke sub. Charco Redondo grant ..... Location.
Bob & Richey's No. 27 Martinez, 870 ft. to SE line, 150 ft. to NE line, Block 24, Duke sub. Charco Redondo grant ..... Location.

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

(Continued from Page 40)

Dr. Ewell Nell's No. 1 J. Watson, 500 ft. from W line, 1,700 ft. from S line of B. Martinez Sur. ..... T.D. 1,150 ft; drlg.
Schneider, Rees et al's No. 2 Claussen, 12 miles NE of San Antonio ..... T.D. 865 ft; standing.
Tri-State Oil Co.'s No. 1 E. B. Carruth, 2,500 ft. from S line, 2,560 ft. from E line of tr. in F. Bolen Sur. ... T.D. 770 ft; set 10-in. csg.
S. W. Blount's No. 1 S. A. Land Co., I. Perez Sur. ..... Spudding.

CALDWELL COUNTY

Ralph Ogden's No. 1 Nealson, 150 ft. from N and E lines of farm, in John B. Gray Sur. ..... T.D. 1,314 ft; abd.
Ralph R. Lewis' No. 1 Keith McGee, 600 ft. from E and S lines of tr. in J. Pinchback Sur. ..... T.D. 50 ft; laying wtr. line.

COMAL COUNTY

Caldwell & Lanier's No. 1 T. J. Byler, 175 varas from W line, 370 varas from N line of 320-ac. tr. in the H.E.&W.T. No. 5,894 Sur. ..... T.D. 722 ft; standing.

DEWITT COUNTY

Gibson & Sturm's No. 1 Clark, Dolores Alderete Sur. .... Rigged up; standing.

DUVAL COUNTY

Thomas & Tarver, Inc.'s No. 1 Wood-Weider, 500 ft. to N line, 4,320 ft. to W line of Sur. No. 102 ..... T.D. 1,501 ft; tested dry.
S. J. Carpenter et al's No. 1 Juan Benavides, Blk. 33, Mesquite grant ..... T.D. 1,712 ft; standing.
Frank Gravis' No. 1 Shallert, Sur. No. 255 ..... T.D. 1,450 ft; trying to test.

FRIO COUNTY

A. H. Wray's No. 1 Roche, 330 ft. from N and W lines of NW SE, Sec. 123, A. Hutzler Sur. ..... T.D. 2,404 ft; standing.

GUADALUPE COUNTY

Pray & Campbell's No. 1 Kruger, 150 ft. to E line and 150 ft. S of Guadalupe River ..... Location.
Barnhill et al's No. 1 H. L. Hoffman, 450 ft. to N and W lines of farm, in John G. King Sur. ..... Set surface csg.
Bolling et al's No. 1 J. E. Lennie, 350 ft. from E line, 1,050 ft. from S line of farm, in Cortario Sur. ..... T.D. 1,670 ft; drlg.
Harry Bruner's No. 2 Jim Sherrill, 330 ft. from NW and SW lines of tr. in Geo. Allen League ..... T.D. 180 ft; standing.
McGarrity et al's No. 1 A. Wesch, Jr., 150 ft. to N and E lines of farm, H. M. Thompson Sur. ..... T.D. 1,200 ft; standing.
Schleyer, Atherton and Armstrong's No. 1 Ogletree, Robert Smith Sur. ..... T.D. 1,745 ft; S.D.
M. W. Eiser's No. 1 Wells, 2,790 ft. to W line, 150 ft. to S line of farm in Jose de la Baume Sur. ..... Rigging up.

GOLIAD COUNTY

Plymouth Oil Co.'s No. 1 Parks, 5 miles NE Goliad..... Derrick.
Camp and Stanolind's No. 2 Pettus, 1,589 ft. N, 63 degrees 46½ minutes W of No. 1 ..... T.D. 4,520 ft; abd.
Neal et al's No. 1 J. M. Pettus, 10,700 ft. to S line, 2,500 ft. to E line of Pedro Trevino Sur. ..... Location.

HAYS COUNTY

J. C. Jones et al's No. 1 Byder, John Ingram Sur. ..... T.D. 930 ft; standing.

JIM WELLS COUNTY

Stanolind O. & G. Co.'s No. 1 N. A. Hoffman, 6,800 ft. from S line, 10,000 ft. from W line of most easterly NE cor. of 7,000-ac. ranch in La Trinidad Sur. .... T.D. 4,900 ft; drlg.

KENDALL COUNTY

Borgett et al's No. 1 W. Haag, 3,804 ft. from N line, 1,506 ft. from W line of W. Avery Sur. ..... T.D. 1,245 ft; S.D.
Dixon Oil Co.'s No. 1 Ottmar Behr, 823 ft. from S and N lines of Jessie Wilson Sur., 3 miles S of Sisterdale ..... T.D. 2,708 ft; standing.
Sitton et al's No. 1 Garvin, C of NE of D. L. Richardson Sur. in the D. L. Richardson Sur., 1 mile NE from Kendalia ..... T.D. 1,482 ft; S.D.
Fred S. Dibble's No. 1 Ellebrach, Sur. 77, N part of county ..... T.D. 50 ft; S.D.
Sartin's No. 1 Lawhon, 30 ft. SE of Perkins' No. 1 Lawhon; taken over at 231 ft. ..... T.D. 575 ft; no report;

KERR COUNTY

Herbert Oil Co.'s No. 1 J. D. Witt, 1,320 ft. N line, 1,320 ft. W line of Sec. 1,923, W. H. Hamilton Sur. .. T.D. 200 ft; standing.
Evans & Gant's No. 1 Selker-Mears, C.C.S.D.&N.G.R.G. Sur. No. 1,605 ..... T.D. 4,031 ft; S.D.
Evans & Gant's No. 1 E. Young, A. E. Burge Sur. No. 28. T.D. 1,312 ft; standing.
Evans & Gant's No. 2 Love, 150 ft. S and W line of Sur. 1,593 ..... T.D. 3,410 ft; in sand.

KARNES COUNTY

V. F. Neuhaus' No. 1 Russell, 150 ft. to E line, 150 ft. N of Highway, in Carlos Martinez Sur. ..... T.D. 1,400 ft; drlg.
United North & South's No. 1 Morrell, 330 ft. from W line, 990 ft. from S line of tr. in Carlos Martinez Sur. ..... T.D. 1,400 ft; drlg.

LA SALLE COUNTY

Buckley Ranch O. & G. Co.'s No. 1 Buckley, 200 ft. from S line, 330 ft. from W line of Sur. No. 37 ..... T. D. 3,503 ft.; coring.

LIVE OAK COUNTY

Henderson Coquat's No. 1 Hewitt ..... T.D. 400 ft; standing.
V. G. Schimmel's No. 1 Terrell in Mark Killely Sur. ..... Spudded in.

LEE COUNTY

A. H. Wheeler and associates' No. 1 fee, Blk. 47, H. Donohue Sur. ..... T.D. 3,525 ft; S.D.
C. B. Polk et al's No. 1 Stoltz, Hiram Donohue Sur. .... T.D. 2,300 ft; S.D.

Chadwick et al's No. 1 Hickey, 1,000 ft to NW line, 300 ft. to NE line of farm in Warrelman Sur. ..... T. D. 20 ft.; spudded in.

MAVERICK COUNTY

I. N. Boicourt's No. 1 Bandera, School Land ..... T.D. 2,284 ft; standing.

McMULLEN COUNTY

Whall, Scherer et al's No. 1 Shiner, Henry Brewer Sur.. T.D. 2,008 ft; S.D.
A. E. Adams' No. 1 Martin, 150 ft. NW line, 150 ft. to SW line of E. Melon No. 212 Sur. ..... T. D. 363 ft.; standing.
Jacob, Buzzini & Pickett's No. 1 Jacob in NE part of county ..... Rigging up.

MEDINA COUNTY

Frank A. Brown's No. 1 Fohn, 150 ft. from E line, 790 ft. from N line of J. F. Torry Sur. No. 113..... T.D. 922 ft; twisted off drill stem; fishing.
Genard Bros.' No. 1 L. Crawford, 150 ft. to N and W lines of tr. in J. Keppler Sur. No. 478 ..... T.D. 2,145 ft; drlg.
J. H. Hickey's No. 1 Jungman at N end Chicon Lake.... T.D. 650 ft; S.D.
Star Pet. Co.'s No. 1 Medina Valley Irrigation Co., 150 ft. from S and E lines of Isom Palmer Sur. No. 20.... T.D. 825 ft; S.D.

MILAM COUNTY

Dil-Tex Oil Corp.'s No. 1 E. Lawson, 560 ft. from NE and 270 ft. from SE lines of farm in Fernando Rodriguez Sur., near Cause ..... T. D. 2,550 ft.; standing.
H. W. Elliott's No. 1 Marek, 767 ft. from N line, 500 ft. from W line of 160-ac. tr. in B. Wickson Sur. ..... T.D. 1,295 ft; S.D.
Nowlen's No. 1 Beard, 1,350 ft. from SE line, 450 ft. from SW line of farm, in J. F. Guthrie Sur., 4 miles S Thorndale ..... T.D. 2,036 ft; S.D.
Red Bank Oil Co.'s No. 1 Foster, A. G. Berry Sur. ..... T. D. 4,440 ft.; fishing.

NUECES COUNTY

Southern Crude Oil Pur. Co.'s No. 1 Chas. E. Stratton, 1,650 ft. E line, 330 ft. S line of P. Sancho Sur. .... T.D. 4,765 ft; testing.

REAL COUNTY

McGinley Corp.'s No. 1 Haby, C of SW, Sec. 175 ..... T.D. 2,530 ft; S.D.

TRAVIS COUNTY

Bass & Speed's No. 1 E. T. Nagel, L. Kimbro Sur. ..... Location.
Bass & Speed's No. 1 Joe F. Nagle, 750 ft. from SW line, 450 ft. from NW line of farm in L. Kimbro Sur.. T.D. 895 ft; abd.
C. R. Franklin et al's No. 1 J. Wilson, 160 ft. from N and W lines of farm in A. Alexander Sur. ..... T.D. 950 ft; drlg.
Ray & Henze's No. 1 Hatech, in C of tr. in S. Hamilton Sur. ..... T. D. 360 ft.; standing.
Waldron et al's No. 1 T. Cook, 900 ft. from NW line, 2,500 ft. from SW line of D. H. Minor Sur. ..... T. D. 1,355 ft.; standing.

WEBB COUNTY

O. W. Killam's No. 2 Bruni, 9,195 ft. to NE line, 6,890 ft. to SE line of tr. in Borrego grant ..... T.D. 1,635 ft; drlg.
Power & Dettenhaim's No. 1 Cowan & Goss, 1,870 ft. from W line, 1,656 ft. from N line of Sur. No. 1,606.. T.D. 150 ft; drlg.
Winfield Killam's No. 1 Killam, Blk. 18, Sur. 1,618, near Reiser ..... T. D. 2,050 ft.; drlg.
Cole Pet. Co.'s No. 4 Benavides, 2,480 ft. to E line, 160 ft. to S line of Sur. No. 1,613 ..... T.D. 4,050 ft; S.D.
Fansler, Johnson & Peacock's No. 1 Laurel, 425 ft. to N line, 600 ft. to E line of Blk. 10, Sur. 271 ..... Rigging up.

WILLIAMSON COUNTY

Burns et al's No. 1 Wilder, 1,800 ft. to N line, 200 ft. to W line of tr. in H. Owens Sur. ..... Rigging up.
Hays & Gee's No. 1 E. G. Johnson, 1,800 ft. from N line, 170 ft. from E line of tr. in B. C. Low Sur., S of Georgetown ..... T.D. 1,530 ft; drlg.
H. Fritz' No. 2 fee, 35 ft. N of No. 1 fee ..... T. D. 1,100 ft.; standing.
McLean's No. 1 R. C. Miller, 300 ft. from S line, 150 ft. from W line of farm in Manlove Sur. ..... T. D. 1,700 ft.; shut down.
Newman et al's No. 1 Cruse, 500 ft. to NW line, 150 ft. to NE line of farm in H. W. Eubanks Sur. ..... T.D. 1,612 ft; abd.
R. S. Wilson's No. 1 Speckles, 150 ft. N of road, 600 ft. from W line of farm in J. Jordan Sur., 1 mile N of Coupland ..... S.D. 875 ft.

WILSON COUNTY

A. M. Blume's No. 1 Nickolson, C. Dias Sur. ..... T. D. 1,600 ft.; shut down.

ZAPATA COUNTY

Ballard & Mercer's No. 1 Flores, 500 ft. from NE line, 580 ft. from SE line of Blk. 27, Porcion 37 ..... Rigging up.
M. D. Slator's No. 1 Slator, 1,000 ft. from SE line 1,200 ft. from SW line of Blk. 25, J. V. Borrego grant .... T.D. 1,000 ft; drlg.
F. H. Etheridge's No. 1 Henne-Winch, in Sur. No. 286.. T.D. 1,900 ft; drlg.
T. H. Ward's No. 1 Uribe, 150 ft. NW line, 150 ft. SW line, Blk. 3 Subd., Share 7, Porcion No. 6, T. Uribe Partition of Jose V. Borrego Sur. ..... Rigged up and standing.
Bill Henry et al's No. 1 Gopher Trust estate, Borrego grant ..... T.D. 1,525 ft; standing.
National Oil Co.'s No. 1 Zapata Trust estate, 617 ft. NW line, 96 ft. NE line, Blk. 97, De Prom Subd., Porcion 6 ..... T.D. 600 ft; standing.
National Oil Co.'s No. 2 Adams, 150 ft. from NW line and SW line, Blk. 11, Borrego grant ..... T.D. 1,320 ft; standing.
Newton, Owens & Evans' No. 1 Garza, 200 ft. to N line, 200 ft. to W line of Blk. 4, Share 1, Sur. 161 ..... T.D. 1,400 ft; drlg.

GULF COAST FIELDS AND WILDCATS

(Continued from Page 38)

HUMBLE—HARRIS COUNTY

Southern Coastal Oil Co.'s No. 3 Perkins, John Jones Sur., 150 ft. N of No. 2 ..... Derrick.
Sun Oil Co.'s No. 25 Bender, W. B. Adams Sur., 1,155 ft. from C of R.R. on an extension of the N line of the Bender North Addition and 8 ft. S ..... T.D. 3,298 ft; plugged to 2,850 ft; set 5 joints 4½-in. screen; swbng.
The Texas Company's No. 37 Koehler, J. B. Stevenson Sur., 717 ft. E and 603 ft. S of NW cor. of SW Fee tract ..... Drlg. gumbo and boulders 1,005 ft.
The Texas Company's No. 46 Stevenson fee, 1,630 ft. N and 1,690 ft. W of SE cor. of J. B. Stevenson Sur... Gumbo 1,432 ft; cmtd. 10-in. csg.

PORT NECHES—ORANGE COUNTY

The Texas Company's No. 1 Polk-Kuhn-Glass, 260 ft. E and 1,545 ft. S of SW cor. Marshall Beauchamp Sur., in the T. J. Notgrass Sur. ..... Drlg. sand and shale 2,856 ft.
The Texas Company's No. 3 Kuhn, 587 ft. S and 160 ft. W of NE cor. of the Mary E. Hall Sur. No. 2 .... Location.

HULL—LIBERTY COUNTY

Republic Prod. Co.'s No. 144 Dolbear, Jesse Devore Sur., 250 ft. W of No. 97 and 200 ft. SW of No. 99 ..... Drlg. 1,870 ft.
Wenecedan Oil Co.'s No. 2 Palmer, Chas. Underton Sur... Shut down 2,110 ft.
Sun Oil Co.'s No. 10 Carr ..... Drlg. shale 1,072 ft.

PIERCE JUNCTION—HARRIS COUNTY

Gulf Production Co.'s No. 33 Taylor, James Hamilton Sur. No. 52, 300 ft. E of No. 32 and 50 ft. from S line ..... Drlg. sand and boulders 3,027 ft.
Moody Corp.'s No. 2 Boyles (W.O.), W. E. Armstrong Subd., B.B.B.&C. No. 1,028, 50 ft. from E line and 101 ft. from N line of tract ..... Completed pumping 85 bbls. daily 3,844 ft.
Rio Bravo Oil Co.'s No. 19-A Settegast (W.O.), J. Kopman Sur. No. 44, 2,585 ft. S and 285 ft. W of NE cor. "A" lease ..... Completed flowing 800 bbls. daily, 4,181 ft.
Southern Petroleum Co.'s (Tilton et al) No. 1 N. C. Barnes, B.B.B.&C. Sur. No. 1,038, 15 ft. from N line and 25 ft. from W line of Blk. 49, Jones Subd... Drlg. sand and shale 3,695 ft.

BLUE RIDGE—FORT BEND COUNTY

Coronado Oil Co.'s No. 2 Blakely, 430 ft. W, 575 ft. N of SE cor. of Lot 8, Blk. D, E. Drew Sur. ..... Rig.

HIGH ISLAND—GALVESTON COUNTY

Yount Lee Oil Co.'s No. 20 Cade, N. Fitzsimmons Sur., 161 ft. W of No. 15 and 146 ft. SW of No. 17 ..... Shut down 60 ft.
Yount Lee Oil Co.'s No. 22 Cade, N. Fitzsimmons Sur., 125 ft. S of No. 21 ..... Sand 5,133-65 ft; drld. 7-in. plug at 5,120 ft. to set screen.
Yount Lee Oil Co.'s No. 23 Cade, N. Fitzsimmons Sur., 300 ft. S of No. 22 ..... Drlg. sandy lime 4,015 ft.

DAMON MOUND—BRAZORIA COUNTY

Layne et al's No. 8 Wisdom, 155 ft. from NW line and 150 ft. from NE line, Lot 52, Blk. D, Wisdom Subd., A. Darst Sur. ..... Fishing bit 3,326 ft.
The Texas Co.'s No. 1 Cave hrs., 75 ft. SW, 150 ft. SE at right angles from N cor. of Lot A, Blk. 73, Wisdom Subd., A. Darst League ..... Rig.

ORCHARD—FORT BEND COUNTY

Gulf Production Co.'s No. 30 Moore, Mark Smith Sur., 400 ft N and 600 ft. W of No. 29 ..... Drlg. sticky shale 3,328 ft.

ORANGE—ORANGE COUNTY

Jefferson Prod. Co.'s No. 1 Bland ..... Sandy shale 2,980 ft.; drill stem stuck.

LOCKWOOD—FORT BEND COUNTY

Cullen & West and Gulf Prod. Co.'s No. 2-A Lockwood & Sharp (D.D.) ..... Deepened to 5,148 ft; set 5 joints of 4¾-in. screen.
Cullen & West and Gulf Prod. Co.'s No. 3-A Lockwood & Sharp, J. Rabb Sur., 600 ft. E of No. 2-A.. Drlg. sticky shale 3,830 ft.
Cullen & West and Gulf Prod. Co.'s No. 4-A Lockwood & Sharp, J. Rabb Sur., 550 ft. W of No. 2-A ..... Derrick.
Cullen & West and Gulf Prod. Co.'s No. 2 H. P. Lockwood, J. Rabb Sur., 300 ft. N and 200 ft. W out of SW cor. 383-acre tract ..... Rig.

MARKHAM—MATAGORDA COUNTY

Powers Prod. Co.'s No. 1 N. R. Meyers, Wm. Hadden Sur., 750 ft. from E line, 300 ft. from N line, Blk. 6.. Rigging up.

LOST LAKE—CHAMBERS COUNTY

Pure Oil Co.'s No. 6 Lost Lake, 2,381 ft. W and 289 ft. S of No. 5 in Lost Lake ..... Drlg. sticky shale and lime 4,235 ft.

NASH—FORT BEND COUNTY

Harrison & Abercrombie's No. 15 Nash, Thomas Alsbury S League, 450 ft. E and 75 ft. S of Rycade Oil Corp.'s No. 13 Nash ..... T.D. 4,814 ft; sidetracked to sand showing oil 4,739 ft; set 1,000 ft. of 8¼-in. csg. on bottom with 9⅝-in. csg. to top.

MOSS BLUFF—LIBERTY AND CHAMBERS COUNTIES

Gulf Production Co.'s No. 4 McFaddin, J. McFaddin Sur... Drlg. lime and shale 5,696 ft.
Humble Oil & Ref. Co.'s No. 8 Sterling, James McFaddin Sur., 150 ft. from N line and 1,650 ft. from E line of 512-acre tract ..... Dry and abd. 6,054 ft.

REFUGIO—REFUGIO COUNTY

Larco Gas Petroleum Co.'s No. 4 Strauch heirs, 150 ft. from N line and 150 ft. from W line, Lot 6, Blk. 2.. Rig.
Moody-Seagraves Prod. Co.'s No. 2-A St. John, Refugio town tract, 600 ft. E of No. 1-A and 300 ft. from N line of lease ..... Drlg. shale 2,186 ft.
United Prod. Corp.'s No. 6 O'Brien, 150 ft. from S line of tract, 350 ft. W of No. 3 ..... Oil sand 6,438-51 ft.; twisted off joint drill stem; S.D.; waiting orders.
United Prod. Corp.'s No. 2-A W. J. Fox, Wm. Hews and L. Brown Sur., 2,099 ft. NE along SE line from SE cor. of lease, thence 1,690 ft. NW at right angles ..... Drlg. hard shale and lime 5,324 ft.

SOUTH LOUISIANA FIELDS

LOCKPORT—CALCASIEU PARISH

Vacuum Oil Co.'s No. 32 Miller, 925 ft. E and 480 ft. S of NW cor. S half of NW of Sec. 9-10s-9w ..... Spudded.

JENNINGS—ACADIA PARISH

Jennings Pet. Co.'s No. 2 Eunice Crowley (W.O.), 325 ft. S and 50 ft. W out of the NE cor. of Sec. 42-9s-2w. Sand showing oil 4,254 ft; set screen.
Yount Lee Oil Co.'s No. 10 Housierre-Latrielle, 5,435 ft. E and 1,070 ft. N of SW cor., Sec. 47-9s-2w ..... Hard sand 7,794 ft; cmtd. 7-in. csg. 7,740 ft.

SORRENTO—ASCENSION PARISH

Gulf Ref. Co.'s No. 20 United Land Co., 4,040 ft. N and 760 ft. W, SE cor., Sec. 15-10s-4e ..... Drlg. gumbo 1,206 ft.

HACKBERRY—CAMERON PARISH

Calcasieu Oil Co.'s No. 27 Watkins, 1,150 ft. N and 1,590 ft. W of SE cor. Sec. 13-12s-10w ..... Set 1 joint 4½-in. screen 2,982 ft; completed flowing 1,000 bbls. of P.L.O., 250 lbs. pressure, ¾-in. choke.
Calcasieu Oil Co.'s No. 28 Watkins, 1,070 ft. N. 1,742 ft. W of SE cor., Sec. 13-12s-10w ..... Drlg. 1,600 ft.
R. E. Seiss' No. 3 Vincent, 2,195 ft. S and 1,220 ft. W of NE cor. Sec. 30-12s-10w ..... Location.
R. E. Seiss' No. 2 J. M. Vincent ..... Shut down 2,163 ft.
J. G. Sutton's No. 2 Irwin, 1,600 ft. W and 200 ft. N of SE cor. NE SE of Sec. 13-12s-10w ..... Set 1 joint 4½-in. screen, 4 ft. of blank and 2½-in. tubing to top; T.D. 2,972 ft; completed flowing 3,000 bbls., ¼ and ½-in. chokes.
Yount Lee Oil Co.'s No. 44 State, 1,110 ft. N and 1,915 ft. W of SE cor., Sec. 13-12s-10w ..... Location.
Yount Lee Oil Co.'s No. 45 State, 1,220 ft. N and 810 ft. W of SE cor., Sec. 13-12s-10w ..... Location.
Yount Lee Oil Co.'s No. 46 State, 1,380 ft. N and 1,555 ft. W of SE cor., Sec. 13-12s-10w ..... Location.
Yount Lee Oil Co.'s No. 47 State, 1,420 ft. N and 1,408 ft. W of SE cor., Sec. 13-12s-10w ..... Location.

VINTON—CALCASIEU PARISH

Marrs McLean's No. 1 Gray (D.D.) ..... T.D. 1,600 ft; set whipstock to sidetrack 1,358 ft.
Vinton Pet. Co.'s No. 10 Gray (W.O.) ..... Drlg. sidetracked hole in sand 3,196 ft.

SWEET LAKE—CAMERON PARISH

Pure Oil Co.'s No. 5 Sweet Lake (D.D.), Sec. 12-13s-8w.. T.D. 5,658 ft; drlg. sticky shale in sidetracked hole 3,951 ft.

MISCELLANEOUS WILDCATS

TEXAS

AUSTIN COUNTY

O'Hara Oil & Gas Co.'s No. 1 Nellous, J. C. Cummings-Hacienda Sur., 650 ft. N of No. 1 Schroeder in 18-acre tract, north edge Mill Creek ..... Derrick.
Pomacal & Boletka's No. 1 Schebajsa, 329 ft. N, 78 degrees E of N cor. B. Dottery Sur., near center of SW line of S. F. Austin 4 League on west fork of Mill Creek ..... Rig.

BRAZORIA COUNTY

The Texas Company's No. 1 Belcher, 157 ft. from NW line and 223 ft. from SW line Lot 18, Blk. A, Suburban Gardens Subd., Manvel ..... Deepened to 5,494 ft; set 22 ft. of 4¾-in. screen; completed flowing 1,000 bbls. of P.L.O.; 7/16-in. choke, 950 lbs. on tubing and 200 lbs. on csg.
The Texas Co.'s No. 2 Belcher, Harvey N. Little Sur., 1,728 ft. southeasterly from N cor. of S half of Sur., along NE line and thence 123 ft. at right angles.... Derrick.

United Oil Syndicate's No. 1 Levitt, 900 ft. from W line and 400 ft. from S line of John Peske Sur. ..... T.D. 1,594 ft. in gumbo; drill-stem stuck.

BURLESON COUNTY

Marek & Son's No. 3 A. Marek, N. McFaddin Sur., 1,068 ft. N and 225 ft. W of SE cor. of tract ..... Drlg. shale 2,053 ft.
Marts et al's No. 1 W. H. Boyett, W. McWilliams Sur., 3,168 ft. N of N cor. of City National Bank 208-acre tract and 300 ft. SE of NW line of Boyett tract.. S.D. 3,006 ft.
Mid-South Oil Co.'s No. 1 Duckworth (W.O.), E of Clay Station ..... Abd. 3,070 ft.

FORT BEND COUNTY

Stone & Wyman's No. 1 Beard, H.&T.C. Sur. No. 118, 1,150 ft. from NW line and 1,892 ft. from NE line .. Shut down 1,275 ft.; 2 joints drill stem lost in hole.

GRIMES COUNTY

Rianjo Oil Co.'s No. 2 Cuthrell, Pat B. O'Connor Sur., C of 110-acre tract ..... Shut down for fuel 2,932 ft.

HARRIS COUNTY

Givens & Daybault's No. 1 Lobit, David Middleton Sur., Blk. 19, Lobit Subd. ..... Drill stem stuck 2,452 ft.
Humble Oil & Ref. Co.'s No. 2 Irwin (D.D.), Mykawa, Wm. Lovett Sur. ..... Drlg. sand 6,305 ft.
Humble Oil & Ref. Co.'s No. 5 Minnetex, Mykawa, 150 ft. from S line and 200 ft. from W line, Lot 261, Wm. Lovett Sur. ..... Location.
J. P. Runnicutt's No. 1 Haney, T. Pitching Sur., 150 ft. out of NE cor. of Geo. E. Haney 730-acre tract ..... Abd. 5,872 ft.
Louisiana Oil & Dev. Co.'s No. 1 J. W. Wilson, W. Ritchie Sur. ..... Location.
Shubert & Alexander's No. 1 Herman Hale, 1,058 varas E of NW cor. R. A. Hanks Sur., thence 790 varas S and thence 70 varas W 74 degrees ..... Shut down in gumbo 2,206 ft.

JACKSON COUNTY

Chicago-Gulf Oil Co.'s No. 9 Drushell, Edna F. Rodrigues Sur., 1,080 ft. N, 58 degrees E No. 8 ..... Gas sand 2,635-40 ft.; cem. casing.

JASPER COUNTY

Hext Drlg. Co.'s No. 1 Flourney, B. F. Jones Sur., 600 ft. NW of Helmerich & Payne's No. 1 Flourney ..... Drlg. gumbo 1,152 ft.

JEFFERSON COUNTY

Humble Oil & Ref. Co.'s No. 1 Nelson, Wm. Rice Sur., 550 ft. from N line and 50 ft. from E line of W half of 1,071-ac. tract ..... Drlg. shale 2,935 ft.
John I. Pipkin and Elam's No. 1 Broussard, McGaffey Sur., 800 ft. from S line in center E and W of 206-ac. tract ..... Set surface csg. 40 ft.
Texas Gulf Sulphur Co.'s No. 1 Thompson, Fannett, Wm. Smith Sur., 1,950 ft. W and 1,600 ft. S of NE cor. of Thomas 446-acre tract ..... Sulphur test.
Texas Gulf Sulphur Co.'s No. 1 Thomas Fannett, Wm. Smith Sur., 1,950 ft. W, 1,600 ft. S of NE cor. of Thomas' 446-ac. tr. ..... Sulphur test.
Westbury Oil Co.'s No. 4 West, 450 ft. W and 4,210 ft. S of NE cor. of T. D. Yoakum Sur. ..... S.D. in gumbo 600 ft.

LIBERTY COUNTY

L. B. House's (I. R. Ingram) No. 1 C. T. Palmer, James Fenner Sur., 1,000 ft. from W line and 850 ft. from S line of tract ..... Shale 3,158 ft; trying to make drill stem test.
Hamm et al's No. 1 Harvard, Davis Hill ..... Gumbo 1,015 ft.; S.D.

MATAGORDA COUNTY

United North & South Oil Co.'s No. 1 Stoddard, J. C. Keller Sur., 150 ft. W and 545 ft. N of SE cor. Blk. 53, Buckeye townsite ..... Drlg. sticky shale 4,150 ft.
Harvey Smith's No. 1 Boker (Citrus Grove), J. V. Criswell Sur., Robbins Subd., 2,000 ft. S and 2,000 ft. E of NW cor. of Lot 14 and Lot 15 ..... Spudded.

MONTGOMERY COUNTY

Hogg Bros.' No. 1 Sealey, Jas. Pevehouse Sur., 1,575 ft. N of N line of Horton & Woodson's 1,562-ac. tr., and 3,226 ft. E of W line of H. & W. 1,870-ac. tr... Spudded.
Humble Oil & Ref. Co.'s No. 1 W. A. Penn, 750 ft. from N line and 900 ft. from E line of S. J. McFarland Sur. ..... Drlg. sand, shale and shell 3,874 ft.
Stanolind Oil & Gas Co.'s No. 1 R. M. Gary, Jacob Shannon Sur., 150 ft. SW of SW cor. D. Pitts 91-acre tract in R. M. Gary 633-acre tract ..... Rigging up.
Strake et al's No. 1 South Texas Dev. Co., 468 ft. in westerly direction along N line of Theo. Slade Sur. from SW cor. of A. McGowan Sur., and thence 750 ft. in southerly direction at right angles from said line in Slade Sur. ..... Drlg. sand and shale 4,514 ft.

ORANGE COUNTY

Altex Oil Co.'s (Veteran Oil Co.) No. 1 Reed, A. Nelson Sur. No. 1, 500 ft. from N line and 250 ft. from E line of tract ..... T.D. 4,063 ft.; sidetracked 1,200-2,200 ft.; S.D.
Crew Oil Co.'s No. 1-A Mansfield, 50 ft. E of No. 1 ..... Drlg. gumbo 1,812 ft.

POLK COUNTY

Freeman et al's No. 2 Freeman ..... S.D. 3,162 ft.
T. B. Hoffer's No. 1 Saner-Ragly Lbr. Co., 300 ft. out of most northerly cor. of most easterly County School Land Abst. 271 ..... S.D. 1,171 ft.
Trans-Coastal Oil Co.'s No. 1 M. E. Roberts, J. F. Rumayor Sur., 350 ft. from W line and 150 ft. from N line of tract ..... S.D. 734 ft.

REFUGIO COUNTY

Blanco Creek Oil Co.'s No. 1 Damaan, 150 ft. from N line and 150 ft. from W line of Blk. 14, Bonnie View Ranch Subd. ..... Shut down 4,627 ft.
Humble Oil & Ref. Co.'s No. 1 O'Connor, John Keating Sur., 6,012 ft. S from NE cor. along SE line of Lon T. Ross Sur., thence 7,375 ft. W at right angles in John Keating Sur. ..... T.D. 3,879 ft; cmtd. 9⅝-in. csg.

SAN JACINTO COUNTY

E. P. Edwards' No. 1 J. R. Bennett, Cold Springs ..... S.D. 750 ft.

TRINITY COUNTY

Scientific Producers Co.'s No. 1 Thompson, I.&G.N. Sur. No. 47, 50 ft. out of NE cor. of H. K. Thompson 199-ac. tr. ..... Rig.

TYLER COUNTY

King Oil Co.'s No. 1 Caswell ..... Sand and shale showing oil 1,255 ft.; cmtd. 6-in. csg. 1,218 ft.
Allied Pet. Co.'s (Texas Southern Pet. Co.) No. 3 Wilson, Mrs. E. Cherry Sur. No. 798, 1,500 varas from W line and 600 varas from N line ..... Fishing 5,025 ft.

VICTORIA COUNTY

Bunte et al's No. 1 Keeran, 3,714 ft. NE along railroad from SW line of Martin DeLeon Sur., and thence 1,600 ft. NW at right angles ..... Drlg. shale 1,451 ft.
Houston Oil Co.'s No. 1 Conrad, T.&N.O. Sur. No. 1, 1,100 ft. from SW line and 100 ft. from NW line.... Washing down 5,176 ft.
The Texas Company's No. 3 McFaddin, S 15 degrees W, 6,300 ft. and N 75 degrees W 1,850 ft. out of NE cor. John M. Rine Sur. ..... Drlg. sand and shale 4,855 ft.

WALKER COUNTY

Hart Oil Co.'s No. 1 Thompson Lbr. Co., Jose Ortega Sur., 1,265 ft. S, 1,376 ft. W of SW cor. of J. B. Gibson's 71-ac. tr. ..... Rig.

WALLER COUNTY

McDaniel and associates' No. 1 Citizens State Bank, B.B.B.&C. Sur., C of 150-ac. tract ..... Rig standing.

WASHINGTON COUNTY

Moon & Yeager's No. 1 Hahn, 500 ft. from N line and 1,852 ft. from W line of J. H. Alcorn Sur., Abst. 3.. Drill stem stuck 3,635 ft.
Penn-Tex Oil Co.'s No. 2 Kamah Brenham, S. M. Williams Sur. ..... Shut down in anhydrite 3,490 ft.

WHARTON COUNTY

Beard & Brumblow's (Shibe & Gray) No. 1 Brown (W.O.), S of El Campo ..... Shut down 3,041 ft.; repairing ra.
W. H. Wallace et al's No. 1 Lee, 600 ft. S and 800 ft. W from NE cor., Sec. 18, G.H.&H. Sur. ..... S.D. for repairs 2,815 ft.

SOUTH LOUISIANA

ASCENSION PARISH

Crawford Doyle's No. 1 Johnson, Sec. 23-9s-13w ..... S.D. 875 ft.
I. O. Davis' No. 1 Industrial, Sec. 29-9s-10w ..... Standing 6,568 ft.
Wilfred Lahay's No. 1 Jardell, Sec. 16-10s-12w ..... S.D. 3,650 ft.
Success Oil Co.'s No. 1 Hewitt, 90 ft. out of SW cor., Sec. 11-9s-11w ..... Rig.

IBERIA PARISH

Jefferson Lake Oil Co.'s No. 22 Lake Peigneur, Sec. 58-12s-5e, 600 ft. NW of No. 21 ..... Sulphur test.
Jefferson Lake Oil Co.'s No. 23 Lake Peigneur, Sec. 58-12s-5e, 600 ft. NW of No. 22 in line with No. 21.. Sulphur test.
Jefferson Lake Oil Co.'s No. 24 Lake Peigneur, Sec. 58-12s-5e, S 600 ft. 79 deg. 30 min. W of No. 23 ..... Sulphur test.

IBERVILLE PARISH

Standard Oil Co.'s No. 1 Myrtle Grove-Wilbert, Bayou Choctaw, Sec. 52-9s-11e, 250 ft. W No. 1 Gray ..... Salt 2,566-2,712 ft.; plugged to 2,535 ft; set 122 ft. of 4-in. screen sealed to 7-in. csg. set at 2,405 ft; completed flowing 75 bbls. P.L.O. daily through 7-in. csg.
Standard Oil Co.'s No. 2 Myrtle Grove-Wilbert, Bayou Choctaw, 2,040 ft. N and 600 ft. W of center of Sec. 52-9s-11e ..... Derrick.
Standard Oil Co.'s No. 2 Gay, Bayou Choctaw, 4,500 ft. N and 600 ft. E of SW cor. SE of Sec. 52-9s-11e ..... Location.
Standard Oil Co.'s No. 6 Schwing, Bayou Blue, Sec. 73-9s-11e, 317 ft. S of No. 2 ..... Drlg. wtr. sand 5,620 ft.

LA FOURCHE PARISH

State Production Co.'s No. 1-C Mrs. W. H. Stark, Sec. 71-15s-15e ..... Sulphur test.
The Texas Co.'s No. 3 La.L.&E., Leesville, 4,439 ft. S and 468 ft. E of NW cor., Sec. 25-21s-22e ..... Rig.

PLAQUEMINES PARISH

Humble O. & R. Co.'s No. 5 Cockrell-Moran, Lake Grand Ecaille, 10,377 ft. N and 2,614 ft. W of NE cor. of Twp. 21s-26e ..... Location.
Humble O. & R. Co.'s No. 6 Cockrell-Moran, Lake Grand Ecaille, Twp. 21-26e, 5,000 ft. E of Washington Sta. ..... Cap rock 1,322 ft; cmtd. 9⅝-in. csg. 1,270 ft.

TERREBONNE PARISH

La. Gas & Fuel Co.'s No. 2 Minor, 3,480 ft. S and 1,980 ft. E of NW cor., Sec. 3-18s-16e ..... Drlg. S.W. sand 2,325 ft.
The Texas Company's No. 2 La.L.&E., Bay Junop ..... Drlg. sticky shale 4,040 ft.
The Texas Company's No. 4 La.L.&E., Bay Junop ..... Location.
The Texas Company's No. 10 State, Lake Barre ..... Location.
The Texas Company's No. 11 State, Lake Barre ..... Drlg. sand and lime 2,305 ft.
The Texas Company's No. 12 State, Lake Barre ..... Location.
The Texas Company's No. 14 State, Lake Barre ..... Location.
The Texas Company's No. 1 La.L.&E., Lake Barre, 2,645 ft. S and 595 ft. E of NW cor., Sec. 30-21s-20e.. Location.

VERMILLION PARISH

Pure Oil Co.'s No. 2 Southwest Louisiana Land Co., 1,300 ft. E and 300 ft. S of NW cor. Sec. 4-12s-1w... Drlg. sandy shale 6,628 ft.

WEST FELICIANA PARISH

Putnam Syndicate's No. 2 Como Plantation, Sec. 51-1s-4w. Shale and lime 2,050 ft.; waiting on 8¼-in. csg.

WILDCAT OPERATIONS IN OKLAHOMA

(Continued from Page 33)

Holden's No. 1 Phillips, SE cor., Sec. 3-9-18e ..... S.D. 1,860 ft.
Marion Oil's No. 1 Sanders, NW NE NW, Sec. 10-9-18e.. S.D. 2,337 ft.

KAY COUNTY

Lewis et al's No. 1 Harris, SE NW, Sec. 14-25-1 ..... Location.
Mummert Drlg. Co. et al's No. 1 Cormick, C NW SE, Sec. 9-27-2 ..... S.D. 3,693 ft.
Blackwell Oil Co.'s No. 1 Harshman, Sec. 2-26-1w ..... Rig on ground.

KIOWA COUNTY

Christian's No. 1 Jones, NE SE, Sec. 8-7-18w ..... S.D. 820 ft.

LATIMER COUNTY

P. English's No. 1 Unknown, NW SE, Sec. 16-6-19 .... S.D. 1,542 ft.

LINCOLN COUNTY

Hilton Phillip's No. 1 Phillips, SW NW, Sec. 2-14-3 .... Drlg. 2,710 ft.
Mote et al's No. 1 School Land, NW cor., Sec. 36-17-5 .. Drlg. 535 ft.

McINTOSH COUNTY

Patterson et al's No. 1 Smith, SW cor. NW SE, Sec. 32-9-16 ..... Drlg. 5,793 ft.

MURRAY COUNTY

Capitol Prod. Co.'s No. 1 Cutchall, SE NE, Sec. 6-1-2 .... S.D. 2,425 ft.

MUSKOGEE COUNTY

Sioux Oil Co.'s No. 1 Unknown, NW SE, Sec. 21-11-19 .. S.D. 1,011 ft.

OKFUSKEE COUNTY

Shepard et al's No. 1 Neveas, SE NW SW, Sec. 3-12-10.. S.D. 3,638-90 ft; Wilcox sand; hole full wtr.

OKLAHOMA COUNTY

Citizens Oil Co.'s No. 1 Sage Barber, NE cor., Sec. 21-11-3w ..... S.D. 1,200 ft.
L. C. Hivick's No. 1 Sunset Addition, NW SW NW, Sec. 17-11-3w ..... S.D. 5,515 ft.
J. F. Cuniff, tr.'s No. 1 Church Land, NE NW SE, Sec. 17-12-4w ..... S.D. 6,700 ft.

PAWNEE COUNTY

Rookstool's No. 1 Wylie, NW NE SW, Sec. 6-20-5 ..... S.D. 1,950 ft.
Cochran et al's No. 1 Green, NE cor. SW, Sec. 15-23-5.. Rig.

PITTSBURG COUNTY

Tape Oil Co.'s No. 1 Fulton, SE, Sec. 34-7-14 ..... S.D. 1,200 ft.
J. Morrison's No. 1 Fowler, NE SE, Sec. 13-7-17..... Rig.
C. Kennedy's No. 1 Travis, C SW NE, Sec. 15-7-14 .... Rig.
C. Canady's No. 1 Jones, NW cor., Sec. 14-8-14 ..... Rig.

ROGER MILLS COUNTY

Ute Oil Co.'s No. 1 Williams, C SW, Sec. 23-12-24w .... S.D. 5,150 ft.
L. C. Hivick's No. 1 Davis, C NW NE, Sec. 4-11-26w .... S.D. 3,275 ft.

SEQUOYAH COUNTY

Braman Oil Co.'s No. 1 Unknown, C NW SW, Sec. 29-12-22 ..... Drlg. 1,125 ft.

WASHITA COUNTY

Cooper & Terhune's No. 1 Blocker, NW cor., Sec. 29-8-19w ..... Drlg. 2,551 ft.
Burns & Prince's No. 1 Deck, SW cor., Sec. 21-8-18 .... S.D. 1,140 ft.

OKLAHOMA PANHANDLE

TEXAS COUNTY

Three Way Oil Co.'s No. 1 Crane, SW NW, Sec. 11-1-1s.. S.D. 4,750 ft.

SOUTHERN OKLAHOMA

ATOKA COUNTY

Morris et al's No. 1 Mansell, SW NW NW, Sec. 9-2s-12 .. S.D. 285 ft.
Brookshire's No. 1 R. W. Rowland, NW NE SE, Sec. 18-3s-10 ..... S.D. 1,530 ft.

BRYAN COUNTY

Bryan County Oil's No. 1 Childs, NW SE SW, Sec. 7-7-10.. T.D. 650 ft.
Bush et al's No. 1 Commerce Trust, NE cor., Sec. 35-6s-9 ..... T.D. 740 ft; plugged back to 40 ft.

CHOCTAW COUNTY

Hobson Bros.' No. 1 McChristian, NW NE NE, Sec. 12-6s-19 ..... S.D. 730 ft.

JEFFERSON COUNTY

Smith's No. 1 McCarty, SE NW NE, Sec. 18-4s-8w ..... Location.

LOVE COUNTY

Autrey et al's No. 2 Cross, CWL SE NE, Sec. 27-6s-2 .. Show oil and gas 970-72 ft. and 1,324-34 ft; S.D; T.D. 1,634 ft.

MARSHALL COUNTY

Everette et al's No. 1 Agres, SE NE, Sec. 14-7s-6..... Drlg. 470 ft.

Summers-Sellers' No. 1 Beams, NE SW NE SW, Sec. 20-7s-5 ..... Rig.

Dixson's No. 1 McDuffel, SW SE, Sec. 3-7s-6 ..... S.D. 1,167 ft.

T. Haferro et al's No. 1 fee, NW SE SE NW, Sec. 34-5s-5 ..... Landing csg.; T.D. 580 ft.

McCURTAIN COUNTY

Stewart's No. 1 Patterson, C SE SE, Sec. 7-6s-24 ..... S.D. 756 ft.

PUSHMATAHA COUNTY

George's No. 1 Lane, NW SE, Sec. 32-3s-15..... S.D. 840 ft.

Whitehead et al's No. 1 Messer, SE SW SW, Sec. 35-3s-18 ..... Drlg. 200 ft.

STEPHENS COUNTY

Brown's No. 1 Hightower, SW SE NE, Sec. 15-3s-5w ... Sand 990-1,004 ft; S.O.; S.D.

WILDCAT OPERATIONS IN KANSAS

(Continued from Page 34)

MORRIS COUNTY

Allender et al's No. 1 Wycoff, C SW SE, Sec. 5-17-7..... S.D. 105 ft.

Urschel et al's No. 1 Bersuch, NW SE NW, Sec. 10-17-7.. Fishing 915 ft.

Hankerson et al's No. 1 Cessman, SW SE, Sec. 24-16-9.. S.D. 2,625 ft.

NORTON COUNTY

Richards et al's No. 1 Colby, Sec. 17-4-21w..... Rig.

OSAGE COUNTY

Briggs & Smith's No. 1 Wood, SE NW, Sec. 21-14-15.... S.D. 2,058 ft.

RAWLINS COUNTY

J. G. Durham et al's No. 1 Weaver, SE cor., Sec. 3-3-35w.. S.D. 3,925 ft.

RICE COUNTY

Cress et al's No. 1 Sharp, SE NE, Sec. 13-20-10w ..... Show oil 3,107-15 ft; Silicious 3,-330-36 ft; estimated 1,500 bbls.; shut in.

RUSH COUNTY

Dewey & Mitchell's No. 1 Greenawalt, C SW, Sec. 17-19-16w ..... Show of oil in Conglomerate 3,835-80 ft; plugged back to 3,825-40 ft; estimated 150 bbls.; S.D.

RUSSELL COUNTY

Agate O. & G. Co.'s No. 1 Rochfellow, SE cor., Sec. 6-13-12w ..... S.D. 3,374 ft.

SALINE COUNTY

Twin Mounds Oil Co.'s No. 1 Weis, C W½ NE NW, Sec. 20-13-4w ..... Fishing 2,710 ft.

SHERIDAN COUNTY

Flo et al's No. 1 Shoemaker, SE SW, Sec. 27-7-26w ..... S.D. 3,495 ft.

STAFFORD COUNTY

Rosenthal, Stanolind and Amerada's No. 1 Gray, C NE, Sec. 11-24-31w ..... S.D. 3,560 ft.

STEVENS COUNTY

Argus Prod.'s No. 2 Christopher, C NE, Sec. 10-33-39w.. S.D. 5,521 ft.

SUMNER COUNTY

Tighe et al's No. 1 Thieson, C NW SE SE, Sec. 22-34-2.. C.O. 2,465 ft.

Trees Oil Co. and Shell's No. 1 Springate, NE SE SW, Sec. 6-34-2 ..... S.D. 2,300 ft.

Spencer et al's No. 1 Porter, NE SW, Sec. 12-33-3w..... S.D. 3,775 ft.

WASHINGTON COUNTY

Sincox et al's No. 1 Penwell, NW SE NE, Sec. 16-3-3.... S.D. 1,720 ft.

OKLAHOMA FIELDS

(Continued from Page 33)

It is located southwest of the townsite of Loco.

George Pace's No. 4 McMaster, NE cor. NW NW NE, Section 13-2s-8w, found a showing of gas at 800-14 feet and was drilling at 850 feet. The test is located northwest of Comanche.

In the Shallow Area

In the eastern part of the State, Muskogee County is the most active area. Two of these locations were in the Jolly Pool, north of Muskogee. Finefield and others' No. 2 Rentie, SE cor. SW NW, Section 9-15-18, is an old well which will be drilled to the Wilcox sand. The old total depth was 913 feet. The test will be drilled in search of gas production. Western Drilling & Equipment Co.'s No. 2 Fields, SW cor. NW SE NW, Section 2-15-18, is a new location.

J. M. Foltz' No. 1 Island, SW cor. NE, Section 8-15-18, is landing casing on top of the sand at 1,587 feet. H. L. Jolly and others' No. 3 Spaulding, SE cor. NE SE NE, Section 8-15-18, found a hole full of water and 6,000,000 feet of gas a day in sand at 1,285-95 feet and was drilling at 1,480 feet. On the townsite of Muskogee, M. S. Mussellman, on Lot 8, Block 18, in the SE cor., Section 28-15-18, had a small showing of oil in sand at 434-55 feet and is drilling deeper.

Lease Trading

Lease trading continues at a steady rate in the State since the reopening of the flush fields that were shut in by military orders. Royalty trading has been confined to small tracts in a few scattered areas. Oil companies continue to reduce their holdings on the west side of the State and in areas where the future play and development is expected to be from 5 to 10 years away. Many express the opinion that the oil companies should keep enough acreage in the different areas for protection. A revival of field operations is expected to come by next spring and many oil companies will find themselves without protection and will then be forced to pay higher prices to get the needed acreage.

A number of oil companies have not reduced their holdings to any great extent, but have reduced rentals and in some instances getting extensions to their leases at the same time. In Oklahoma County the majority of companies are continuing to hold their acreage and are not reducing their rentals, even in wildcat territory. Some leases have been surrendered but most of them in areas where dry holes have condemned them.

A survey of the recent transactions in the State include the following: Mid-Continent Petroleum Corp. has leased the SE SE and S half NE SE Section 14-11-6, E half NE Section 21-11-5, all in Pottawatomie County. In Grady County the Gypsy Oil Co. has leased the SE NW and E half SW NW Section 33-10-5w, George Dougan has leased the NE SE and SE NE Section 4-6-6w, and SW Section 28-8-8w, and NE Section 10-8-8w, and SE NW and E half SW and SW SE Section 19-6-8w. Elwood Taylor has leased the S half NE Section 4-7-6w.

In Lincoln County, the Mid-Continent Petroleum Corp. has leased the N half SE Section 21-13-6. In Noble County F. Brinkman has leased the N half NW Section 34-22-2w, and W half NW Section 28-22-2w. In Caddo County considerable acreage has been surrendered in the extreme northern part of the county, most of it being checkerboard acreage held by independents. Denver Producing & Refining Co. has surrendered 16 tracts in the north half of the county. John Rogers has surrendered acreage in Townships 11-11w, 12-11w and in 12-12w.

In Kingfisher County, Twin State Oil Co. has surrendered the W half SE Section 12-16-8w, the SE NW Section 5-16-7w, the S half NE Section 7-16-7w, NW Section 11-16-8w, and S half NE Section 3-16-6w. In Kay County, Sinclair Oil & Gas Co. has surrendered S half NE Section 28-28-1w, the N half NE Section 32-27-4, the E half NW Section 32-27-1, and NE Section 12-26-1w.

In Oklahoma County the Mid-Kansas Oil & Gas Co. has surrendered the SW SE, Section 4-12-1w, and SW, Section 9-12-1w, both in Nicoma Park. Cromwell-Franklin Oil Co. has surrendered the S half NE SW and NE SE, Section 1-12-3w. The Cal-Cul Oil Co. has surrendered the E half SE, Section 14-12-1w.

In Cleveland County, the Shell Petroleum Corp. has surrendered the SW NE, Section 7-9-1w, the Prairie Oil & Gas Co. the E half SW, Section 21-6-1, and the Magnolia Petroleum Co. the NW, Section 22-6-1w.

In Garvin County the Prairie Oil & Gas Co. has surrendered a group of small tracts in Sections 30-32 and 33-4-4w and in 5-3-4w. Shell Petroleum Corp. has surrendered the SE, Section 11-3-2, and scattered tracts in Sections 32-4-1, 36-4-3w, and the S half SE SE, Section 2-4-2.

In Pontotoc County, Sinclair Oil & Gas Co. has surrendered the SW, Section 27-5-7, and SE SW, Section 18-4-7, the NE SE, Section 27-4-7, the SW NW and NW SW, Section 3-3-7, the SE NE, Section 22-4-8. The Sands Petroleum Co. surrendered the SW, Section 3-3-4.

Seminole Production

The production from the Greater Seminole area for the week ending October 30, was approximately 139,860 bbls. The first 12 pools listed below comprise the Seminole area, which averaged 98,285 bbls.

Pool—	Bbls.
Little River	18,275
East Little River	2,645
Carr City	10,415
Maud	1,975
Mission	6,545
Bowlegs	11,325
Earlsboro	13,665
South Earlsboro	3,765
East Earlsboro	14,065
Seminole	11,035
East Seminole	1,135
Searight	3,440
Total	98,285
Allen	9,385
Asher	720
Wanette	5,135
Konawa	6,470
Sasakwa	1,925
St. Louis-Pearson	17,940
Total	139,860

The daily production and pipe line shipments from the Oklahoma City Field for the week ending October 30, were as follows:

Date—	Production	Wells	Shipments
Oct. 25.	194,880	119	161,959
Oct. 26	170,125	118	131,572
Oct. 27	183,810	124	179,160
Oct. 28	157,791	115	168,554
Oct. 29	196,650	125	185,355
Oct. 30	181,980	128	202,182
Oct. 31	219,600	135	204,220

Carter County

W. H. Smith is moving a machine in for No. 1 Ridgeway, NE cor. NW SE, Section 17-3s-4w.

Creek County

Curtis Oil Co. and others' No. 1-A Adams, SE cor. SW SE, Section 18-17-10, is a rig on the ground. A. B. Ice has a machine on the location for No. 1 Jacanta, NE cor. NW NE, Section 19-17-10. D. D. Mickleson's No. 1 B. Clover, CNL NW NE, Section 6-17-11, has been abandoned at 2,696 feet.

Jefferson County

O. V. Beck's No. 1 C. Seay, SW cor. NW SE, Section 34-6s-5w, has drilled a sand from 1,530-45 feet and is now cementing casing at 1,530 feet.

Latimer County

Choctaw Gas Co.'s No. 1 Fitzgerald, C NW NW, Section 1-6-22, is a machine.

Love County

Charles Vanvleck and others' No. 1 Sheldon, NE cor. SE SW, Section 14-8s-2w, is moving in.

Muskogee County

R. B. Hash and others' No. 1 M. Barnett, NE cor. SW, Section 35-16-15, is rigging. C. F. Finefield and others' No. 2 P. Rentie, SE cor. SW NE NW, Section 9-15-18, an old well completed at 913 feet, is cleaning out to deepen. Dunbar & Urban's No. 1 Rowsey, CWL NW NW, Section 10-15-18, is drilling at 425 feet.

Oklahoma County

Anderson, Kerr and Continental Oil Co.'s No. 1 St. Louis, NE cor. NW SW SE, Section 34-12-3w, Block 1, Lot 4, Second Riverside Addition, Oklahoma City Pool, is a rig under construction. T. B. Slick estate's No. 3 Terminal, SW cor. SE NW, Section 3-11-3w, is a cellar. Location has been made for No. 4 Terminal, NW cor. SE SW NW, Section 3-11-3w. No. 5 Terminal, NE cor. SW SW NW, Section 3-11-3w, is also a location. T. B. Slick estate's No. 5 Classen, SW cor. SE NW NW, Section 2-11-3w, has been completed for 3,052 bbls. in four hours from Wilcox sand 6,175-6,333 feet, total depth 6,361 feet. Denver Producing & Refining Co.'s No. 2 King, NE cor. NW SW NW, Section 3-11-3w, topped Wilcox sand at 6,395 feet, drilled to a total depth of 6,530 feet and made 12,194 bbls. in 6⅔ hours on a 3¾-inch choke. T. B. Slick estate's No. 3 Central, NW cor. SE SE SE, Section 3-11-3w, topped Wilcox sand at 6,248 feet, had base of Wilcox at 6,260 feet, total depth 6,552 feet and made 268 bbls. in 9¾ hours swabbing and flowing. No. 5 Central, NW cor. NE SE SE, Section 3-11-3w, swabbed 498 bbls. from Wilcox sand 6,252-6,300 feet, total depth 6,540 feet. Indian Territory Illuminating Oil Co. and others' No. 2 Ivanhoe, SW cor. NE NE, Section 15-11-3w, has been completed for 194 bbls. in 4 hours on gas lift, producing from Wilcox sand topped at 6,345 feet, total depth 6,611 feet.

Okmulgee County

Trident Oil Co.'s No. 7 A. Harris, C E half NE, Section 1-14-14, has been completed for 10 bbls. in sand 1,679-83 feet. W. B. Pine's No. 4 Shepard, NW cor., Section 29-12-14, made 5,000,000 feet of gas from sand 3,026-42 feet.

Payne County

Wood Oil Co.'s No. 1 Curley Chief, SW cor. SE, Section 33-19-5, has been abandoned at 3,792 feet.

Pittsburg County

Utilities Production Co.'s No. 4 Kohler, SW cor. SE SW, Section 11-7-18, made 16,000,000 feet of gas in sand 1,-835-1,936 feet.

Pontotoc County

Barnsdall Oil Co. and others moved a machine in for No. 1 Hart, NW cor., Section 27-5-6.

Pottawatomie County

C. W. James and others' No. 1 Mount, SW cor., Section 35-7-4, is a cellar.

CANADIAN TANK CAR PROJECT

CHATHAM, Ontario, Nov. 2.—Formation of a subsidiary of the Canadian Car & Foundry Co. of Montreal to operate all tank cars in Canada is foreshadowed in a recent statement from Montreal. The plans involve the formation of an organization to do for Canadian shippers much the same work as is performed by similar companies in United States. It is understood the initial suggestions came from the Canadian railways, which were of opinion that supplying tank cars to Canadian shippers might be more advantageously handled by an outside organization.

Canadian Car & Foundry Co. now has 25 tank cars under construction in its own shops and will build other units as conditions warrant. If plans work out as anticipated, the new tank concern will arrange to take over cars now operated by private companies. It is understood the project contemplates the renting of tank cars to shippers at a flat rate of so much per mile.

HERSCHEL V. BURTON DEAD

Herschel V. Burton of Tulsa, veteran oil producer, died October 20, from a complication of diseases. He came to Tulsa in 1912 and operated in the Bird Creek, Jenks, Keystone, Mannford and Turley districts for a dozen years, and in 1924 started operating in the West Texas fields. He was stricken with illness in 1929. Part of the time since he had engaged in the lease brokerage business in Tulsa. Mrs. Burton and three sons and one daughter survive. Edward Burton of Lewis, Ind., and G. Burton of Farmersburg, Ind., were brothers of the deceased.

WALTER STEELE DIES

Funeral services for Walter Steele, division manager for the Phillips Petroleum Co. during the past year, were held at Omaha, Neb., Friday, October 23. Mr. Steele died suddenly October 20 due to heart failure.

CLASSIFIED WANTS

Read by Oil Men Everywhere

RATES

The rates for Classified Advertisements are 35 cents a line for the first insertion and 25 cents a line for each additional insertion. Six words usually constitute a line. The following table will enable you to figure the cost of your advertisement:

	1 time	2 times	3 times	4 times
3 lines	1.05	1.80	2.55	3.30
4 lines	1.40	2.40	3.40	4.40
5 lines	1.75	3.00	4.25	5.50
6 lines	2.10	3.60	5.10	6.60
7 lines	2.45	4.20	5.95	7.70
8 lines	2.80	4.80	6.80	8.80
9 lines	3.15	5.40	7.65	9.90
10 lines	3.50	6.00	8.50	11.00

Compute white space at the above rates.

For rates on Classified DISPLAY see opposite column.

Mail your Classified Advertisement to THE OIL AND GAS JOURNAL Tulsa, Oklahoma

FOR SALE—EQUIPMENT

FOR SALE for a low price. A gasoline powered Sullivan Diamond Core Drill. Write Box E-492, The Oil and Gas Journal, Tulsa, Okla.

200 Amp. Lincoln Arc Welded 220/3/60. Practically new. Price $425.00. 100 Amp. Federal Butt Welder; 220 V. 60 cy. Complete. Excellent condition, $500.00. 12"x14" Chicago Pneumatic Air Compressor. $350.00. 46"x18' Niles Lathe, Quick change; $1,250.00. Also, large stock of lathes, shapers, mailing machines, pipe machines, bolt threaders; etc. Send for our list. Terms to suit.
CINCINNATI MACHINERY & SUPPLY CO.
26 West Second St., Cincinnati, O.

WILL SELL at sacrifice 100 horsepower B.&W. Water Tube Boiler. Good shape. Act quick. J. W. Hooge, 158 S. Water St.. Mobile. Ala.

FOR SALE—One practically new Sullivan "N" Portable Gasoline Engine Driven Diamond Core Drill. Cheap for cash. Also one "Bravo" Diamond Core Drilling Machine. Address P.O. Box 1897, Tulsa, Okla.

FOR SALE—One 4-inch U.G.-1 Worthington 3-stage centrifugal pump—with 9⅝-in. dia. impeller base and coupling. At bargain price. Address Box E-600, The Oil and Gas Journal, Tulsa, Okla.

EQUIPMENT WANTED

WANTED TO BUY one used set of official A. P. I. Cable Drilling Tool Joint Master Gauges, size three to five inch. Answer Box E-561, The Oil and Gas Journal, Tulsa, Okla.

BUSINESS OPPORTUNITIES

NEED SOME MORE GOOD CORRESPONDENTS in every city of United States and Canada to co-operate with me in selling producing and nonproducing royalties. Write, James R. Haynes, Grantville, Kans.

WE BUY, SELL AND SWAP
Real Estate and Oil Properties
Jno. T. Cross, Fort Worth, Texas

WITH $10,000 CAPITAL—Believe can make a profit of $100,000 in six months time trading in commodities. Time is here now. Years of experience. GREGG SNYDER, care James E. Bennett & Co., 25 Beaver St., New York

SAFETY FIRST
You can own, control, highly profitable production and sale in natural gas. Small capital starts you. $2,000 or $3,000 ample. Proven acreage. Excellent market, four public utility pipe lines buying. Four producing sands, deepest only 600 feet. Write H. B. Buddenborg, Parker, Kans.

$8.00 BUYS deed part oil 10 acres, Oklahoma County. MANY WELLS NOW DRILLING. Joe Milam, Dept. 25, Oklahoma City, Okla.

OIL located before drilling. Geophysical method. Toggodometer Instrument; take pay in oil. No oil, no pay, except traveling and testing expenses, 95 per cent accuracy. O. P. Coffin, Caddo, Tex.

BUSINESS OPPORTUNITIES

WANTED—Seismic shot holes, shallow production or core drilling contracts. RITTER-DUGAN Drilling Co., Perry, Okla.

WANTED—Finances Complete Well. Prospective Oil Field. Deussen's Anticline. This is no gamble. Thousand acres. Considerable activity. Next big field. John Sigmund, Corpus Christi, Tex.

EAST TEXAS OIL FIELD
UNUSUAL OPPORTUNITY
For party who will furnish $15,000 to drill well, East Texas, on block of leases where practically all risk is eliminated. Reliable information on this field gladly furnished. No obligation. E. M. Miller, 559 Surf St., Chicago, Ill. Tel. Lake View 7008.

CAN FINANCE well in Texas on block with geological, if 90 days' option on acreage immediately given. No bonus. H. Rankin, 2009 W. Washington, Los Angeles, Calif.

LEASES—PRODUCTION

WILL SELL PART of my 80-acre lease near well starting in southeastern Oklahoma. Address RAY FARBRO, Box 934, Texarkana, Tex.

GREASEWOOD, Colorado, leases for sale. Good block leases for well and small bonus. Box 127, Orchard, Colo.

FOR SALE—Wonderful Lease, 360 acres, Alexander Deussen's anticline, oil and gas territory; sell all or half interest, terms. John Sigmund, Corpus Christi, Texas.

FOR SALE—2500 acres Gas and Oil Leases in proven Kansas field at Real Bargain Price. Must have quick action. Address Box E-800, The Oil and Gas Journal, Tulsa, Okla.

FOR SALE — Block seven thousand acres. Geology shows best in Oklahoma. E. A. H., 4819 Jarboe, Kansas City, Mo.

BLOCKS OF ACREAGE for test well in Bell County, Texas, and adjoining counties. Geologically recommended. A. L. Monteith, Belton, Texas.

FOR SALE CHEAP—Ten-year oil leases; no rentals; also perpetual royalties in Duval County, Texas; several oil and gas fields. References. P. T. Wright, San Diego, Tex.

ROYALTIES—PRODUCTION

PRODUCTION, and nonproducing gas royalties, Stevens County, and Panhandle fields, Kansas, Oklahoma and Texas royalties. Special service for brokers. List and maps. James R. Haynes, Grantville, Kans.

BEDROCK ROYALTY PRICES ahead of drilling on major company blocks. $6 per square mile. Perpetual deeds and title warranty. Clearly stated and understandable interests. See maps and bulletins. R. R. Fisk, Box 1214-B, Wichita Falls, Tex.

ROYALTIES—PRODUCTION

PRODUCING ROYALTIES
Specializing in East Texas
John L. Dickson, Box 1037, Tulsa, Okla.

FURNISHING A REAL SERVICE

to the people of the northern and eastern metropolis who are interested in the oil industry—since 1920.

J. A. Wolfe
OIL ROYALTIES
208 So. LaSalle St.
Chicago, Ill.

BUY PERPETUAL ROYALTY in POTENTIAL OIL TERRITORY, West Texas and watch developments. Tax free. $2 per acre up. H. D. Wilcox, 112 Park Ave., Long Beach, Calif.

AM SPECIALIZING in the sale of gas production and gas royalties in the Texas Panhandle, the largest gas field in the world. Thirty years in business here, and my business is good. Learn the reason. Write or write E. B. Reeves, Alanreed, Gray County, Texas.

New well starting three miles south production Joiner Pool, no dry holes between; 25-for-1 chance next few weeks. E. Croft, Proctor, Texas.

PRODUCING Royalties, offsets under drilling wells, Oklahoma, Texas, Kansas. Hugoton Gas Royalty. Lists, maps. Harry Haynes, Grantville, Kans.

JAMES B. McANALLY

Speculative and Investment Royalties

Hunt Building, Tulsa, Okla.

Service to dealers, Oklahoma, Kansas and East Texas.

LAND, the source of all wealth, the only safe investment, all royalty—on structure—new survey adjoining location—oil fields—Oklahoma County—best geology—three 40-acre tracts—one 40 sells in $100 shares. Geo. W. Seckman, Edmond, Okla.

On the opposite page of this issue we have reproduced excerpts taken from the numerous letters we have received, assuring us, that no other publication in the petroleum industry, and, few others in any field, enjoy the reader interest of the Classified Pages that is evidenced in The Oil and Gas Journal by the large number of replies received by these various advertisers.

Classified Department

CLASSIFIED DISPLAY RATES

The rate for Classified **Display** Advertising set in similar style to this Ad or in two Column style is as follows for each insertion:

1 inch ..... 1 time $5.00
1 inch ..... 13 times 4.50
1 inch ..... 26 times 4.00
1 inch ..... 52 times 3.50

Rates for Classified without display shown on opposite column.

One point borders and ten point capitals are allowed, larger type not accepted.

Changes in copy must be in our office 10 days in advance of publication date.

Mail your advertisement to the Largest Classified Section in the Oil Industry.

THE OIL AND GAS JOURNAL

TULSA OKLAHOMA

ROYALTIES PRODUCTION

MID-CONTINENT OIL ROYALTIES
Royalties Sales Company
Suite 523
105 North Clark St.,
Chicago, Ill.

UNUSUAL OPPORTUNITIES FOR ROYALTY INVESTORS AND DISTRIBUTORS

THE MERCURY COMPANY
Philtower Building, Tulsa, Oklahoma.

WONDERFUL OPPORTUNITY FOR A ROYALTY COMPANY

Will sell Royalty Interests in 100,000-acre spread or more already assembled, aggregating over 500 tracts in EAST TEXAS and other PROMINENT AREAS. Proper terms might be arranged if necessary. For further particulars write

G. T. Blankenship
916 Petroleum Building
Oklahoma City, Oklahoma

WILL PAY CASH for producing Royalties anywhere. Send full information. Merrick C. Ham, Pres., Lamont & Co., Ltd., 1107-8 Bartlett Bldg., Los Angeles, Calif.

Royalty; Leases; Drilling Contract. City Field. Big producing area. O. O. Milliken, Box 63, Oklahoma City.

HOTELS

NEW BRADY HOTEL, TULSA, OKLA.
Tom Wilson, Mgr.
Fireproof, remodeled, new management. Free parking. Prompt, courteous service. Rates $1.00 up. Private baths $1.50.

DRILLING CONTRACTORS

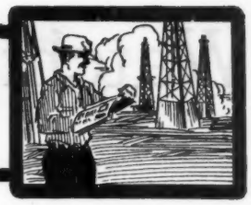
HAVE well equipped spudder, 2,000-foot cap, want drilling Mid-Continent Field. Consider some interest. Also interested in installing gas booster station. M. B. Jenson, West Tulsa, Okla., R. 5.

MISCELLANEOUS

HUNTING privileges for lease on sixty section ranch located in Chisos Mountains of Brewster Co., Texas. No hunting has been allowed for past two years. Write H. M. Wilson, Marathon, Tex.

CLASSIFIED WANTS

Read by Oil Men Everywhere



INCORPORATIONS

CHARTERS — Delaware best, quickest, cheapest, most liberal. Free forms. Colonial Charter Co., Wilmington, Del.

INCORPORATE COMPANIES

Organize, re-organize and arrange stock or bond issues. Obtain "security law" permits in all states. We help you raise working capital. Write the Bond House of Illinois, 612 N. Michigan Ave., Chicago, Illinois, Est. 1925.

GEOLOGICAL SURVEYS

DOODLE BUG INSTRUMENT SURVEYS

Extensive research and observation of the phenomenon developed promising methods of application. Interpretation of areas by revolutionary technique. Field work and interpretation by competent geologist. Surveys as low as $5 per section.

Allen Miller, Box 276, Edmond, Okla.

HOUNDS

HUNDRED COONHOUNDS. Foxhounds. Rabbithounds. Blueticks. Redbones. Blacktans. Supply Catalog. Beckennels, A-47,, Herrick, Illinois.

POSITIONS WANTED

ENGINEER, pipe line, inventory, production, distribution, and abstracting experience, anywhere. Address Box E-591, The Oil and Gas Journal, Tulsa, Okla.

SUPERINTENDENT—17 years' experience construction, operation, topping, cracking, lub refineries. Available now. Address Box E-810, The Oil and Gas Journal, Tulsa, Okla.

ACCOUNTANT, SECRETARY, TREASURER, fourteen years' Producing and Refining experience in Mid-West is seeking another position. Have knowledge of Corporate Procedure, Taxes, Insurance, Leases, Estimating Drilling Costs and Supervision of Producing Operations. No objections to traveling United States or Foreign Countries. Present address: A. M. Fosdick, 8829 Eldert Lane, Woodhaven, New York. Phone Michigan 2-0877.

NINE YEARS warehouseman and Field Inventory. Three years Material Accounting in General Office. Address Box E-812, The Oil and Gas Journal, Tulsa, Okla.

SALESMAN, graduate engineer, with a good sales record, desires position where technical knowledge an advantage; references. Write Box E-700, The Oil and Gas Journal, Tulsa, Okla.

GRADUATE MINING ENGINEER, Experienced in Geology, Production, Leasing, Scouting and Management of small Natural Gas Properties in Appalachian Fields, wants job. Future possibilities of greater consideration than present salary. Address Box E-811, The Oil and Gas Journal, Tulsa, Okla.

PATENT ATTORNEYS

REGISTERED PATENT ATTORNEYS
United States and Canada
Before disclosing your invention to anyone, send for blank form.
Evidence of Conception
Bulletin "How to Establish Your Rights" and complete information free.
LANCASTER, ALLWINE & ROMMEL
Suite 418-815, 15th St., N.W.,
Washington, D. C.

JOHN E. BANGS
Member A. I. E. E.
PATENT ATTORNEY
Patent and Trade-mark Causes; Copyrights; Reports and Opinions
20 Years' Experience
Earle Building, WASHINGTON, D. C.

JAMES H. BOWEN
Empire State Building, New York

PREPARING and prosecuting patent applications a specialty. Send sketch and $8 for preliminary search and report.
LEON C. HILLS,
Registered Patent Attorney,
1234 National Press Bldg.,
Washington, D. C.

HELP WANTED

WANTED—Salesman and Agents; good salary, sell Units in gas properties; 100 per cent Money invested returned to unit holders out of first GAS sold. Thereafter, Unit Holders participate in net profits according to their respective Interests. Mid-Kansas Petroleum Co., Wichita Falls, Texas.

HELP WANTED

SALESMAN with experience selling oilfield and refinery equipment both foreign and domestic oilfields. Box E-570, The Oil and Gas Journal, Tulsa, Okla.

MONEY RAISING

DO YOU NEED MONEY for organizing or financing oil or mining deals? Write 2443 N. W. 12th, Oklahoma City.

JAMES E. MILLER CO. will co-operate with responsible firms or parties seeking aid in financing projects of higher order. Suite 200, New Brady Hotel, Tulsa, Okla.

JOHN MORRIS, 3608 WARREN ST., PHILADELPHIA, Pa., invites full facts first letter from capable parties planning negotiation of reasonable capital support for undertakings distinctly of higher order. Use registered mail, safeguard data.

FINANCE YOUR OWN project with shares bonded. Quickest, most satisfactory known method of raising capital. Information free. Bankers Interstate Security, Electric Bldg., Denver, Colo.

CAPITAL: An exp. dependable broker will aid in financing projects of merit. Amster Leonard, East Orange, N. J.

MONEY RAISING

Inquiries solicited from corporations interested in raising capital through marketing corporate securities.
THE BROOKWORTH CO., INC.,
110 East 42d St., New York.

OIL INDUSTRY PRINTING

OIL FIELD LEGAL BLANKS

Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

THE RESULT OF RESULTS

15 YEARS OF SATISFACTORY RESULTS

We have carried the same 6 line Want Ad in the Journal for over fifteen (15) years, and the fact that we still carry it should convince everyone that we think it a good investment. In one month we received 14 requests for catalogs and have sold 9 out of the 14 already. All these inquiries came from The Oil and Gas Journal.

The Olds Press,
215 East Third, Tulsa, Okla.

BETTER THAN WE EVER EXPECTED

We failed to take into consideration the fact that you have a national distribution and cover a great deal of territory that we can not expect to get students from. However, we had several prospective students write us from Minnesota and Illinois.

North Texas Agricultural College, Arlington, Texas

INQUIRY FROM LONDON

My ads inserted in The Oil and Gas Journal have brought me inquiries from all over the United States and one inquiry from London, England.

W. L. Morris Loan Co., Garnett, Kans.

AD CANCELLED—RESULTS STILL COMING IN

In checking back, I find that one small four line Ad brought replies from eleven different states, including Idaho, Michigan, New York and Texas. Invariably an Ad in the Classified columns brings at least 12 or 15 replies and often some dated two or three weeks after publication, evidence that your Journal does not go into the waste basket.

C. E. Angell, Independence, Kans.

REACHES A MARKET THAT HAS MONEY TO SPEND

I have found that I can make more contacts with people who really have money through ads in The Oil and Gas Journal, than any other source which I have tried in recent years.

Dale S. Johnson,
10 South La Salle St., Chicago, Ill.

USES JOURNAL EXCLUSIVELY

I have been a regular advertiser in the Classified columns of The Oil and Gas Journal. The results have been highly satisfactory, so much so, that I have discontinued all other papers and use your publication as the only medium.

James R. Haynes, Grantville, Kans.

RESULTS ARE REGULAR

It has been phenomenal, the range of publicity we have received from our small advertisement. We have tried advertising in other ways and other magazines but have never had one-half the replies that we have from The Oil and Gas Journal, and it not only happens occasionally, but regularly.

C & A Brokerage & Construction Co.,
P. O. Box 1214, Seminole, Okla.

SELLING USED MATERIAL

We have been able to connect many inquiries for used material as directly resulting from our advertisement in your magazine. It has afforded us contacts with buyers from all parts of the country.

Oil Field Equipment Exchange,
Ritz Building, Tulsa, Okla.

BEST MEDIUM EVER

I have used a number of the other Oil Magazines and Papers, but I have had more results through the advertising in The Oil and Gas Journal, than I have through all the other newspapers, Oil Journals, or Oil Magazines in which I have advertised.

A. P. Tone Wilson,
Wilson Building, Burlington, Colo.

5c INQUIRY COST

When I tell you that my inquiry cost has fallen as low as 5c you will appreciate that this is hard to excel. Probably no other paper in America has such a distinguished reader group of the Classified page as yours. I deduce this from the large number of well known firms that reply.

John Morris,
3608-12 Warren Street, Philadelphia, Penn.

OIL-MINDED READERS

I have had very good results from my ads in your Journal, the inquiries are more oil-minded and a larger percent of them buy than in other mediums of advertising that I am also using.

Roy G. Barton, Clovis, N. M.

BLANKET COVERAGE

The Oil and Gas Journal, in our opinion, is the leader in the Oil Industry and covers the country like a blanket from the Atlantic to the Pacific, besides a large portion of Canada and Mexico.

The Bankers Interstate Securities Co.,
Electric Building, Denver, Colo.

DEADLINE MONDAY NOON—RUSH YOUR COPY MARKED "CLASSIFIED DEPARTMENT"

THE OIL and GAS JOURNAL

TULSA *CLASSIFIED DEPARTMENT* OKLA.

Watchful Waiting In Chicago Markets

Refiners Interested in Advance in Antiknock Values of Gasoline. Expect Tank Wagon Price Advance

By Robert C. Conine

Chicago Bureau, The Oil and Gas Journal, 6 North Michigan Ave.

CHICAGO, Nov. 2.—The attitude Monday in Chicago district marketing and manufacturing oil trade circles was that of waiting and expectation. Sellers and buyers were making as few moves as possible, while the refiners, on the contrary, were sensing a revolution in manufacturing operations and were rapidly carrying to completion plans and constructions to meet the situation. On the marketing side the oil men were looking for advances in crude oil and tank wagon gasoline prices, to be followed by service station increases. On the manufacturing side the oil men were closely watching a gradual advance in the antiknock value of competitors' gasolines, or were anticipating such moves. Following the announcement of Ethyl Gasoline Corp. that effective in March of 1932, Ethyl Gasoline will be raised from 74 octane number to 78 octane number, little doubt remains in respect to the trend in refinery operations.

The fact that the octane ratings given in a table last week in these columns have since been improved in practically every instance indicates that at least for the moment the refiners are not too sanguine about the argued need of the industry to set up a list of standards in regard to octane specifications of the various gasolines below the reported goal of 70 octane number for the regular grade and 78 octane number for the premium grade.

The following experience should throw some light on the situation in Chicago district, at least. One of the smaller refiners informed the writer three weeks ago that the impending march toward higher octane ratings spelled ruin for many of the "little fellows." This refiner said that the best he could do at his plant was a 54 octane number gasoline, and that anything higher than that would leave him with huge quantities of practically unsaleable material. Three weeks later the attitude of this refiner has changed completely. The plans have been approved and he reports that work has already started at his plant on the installation of cracking and stabilizing equipment to increase the antiknock rating of the gasoline from 54 octane number to 68 or 70 octane number.

Summer and Winter

One of the larger companies has recently switched around operations at one of its refineries so that the gasoline shipped from this plant will have an octane rating of 70. One of the gasolines sold as the regular grade in Chicago is still below 60 octane number, but the regular grade of the remaining larger marketers has shown an advance of a point or more in respect to octane rating. One of these has moved up from 64 octane number to 67 octane number.

It is pointed out that in the winter season the automobile engine requires a lower octane number gasoline than in the warmer months, and it may be shown that in other sections of the country where a 70 octane number gasoline has been sold for some time from the regular grade pumps the gasoline now has an octane rating, on an average of 67. This would indicate that although the movement toward a 70 octane number gasoline is strong at this time, the realization of this goal should not be expected before March or April of next year. The introduction of the 78 octane number Ethyl Gasoline at that time should find the refiners who are active now in a position to carry on profitably.

Movement Summarized

One leading marketer summed up the movement toward better antiknock motor fuel, from the viewpoint of the retailer, as follows: "The motorist buys his lubricating oil and can forget about it unless it is full of wax and the garageman points out the trouble. When he buys gasoline, however, he is expecting a motor fuel which will not knock on the hills or when he tries to 'pick up' on the green light, and which will not cause vapor lock. If a motorist has these troubles with a certain gasoline you may be sure that he will never try that gasoline again when he can go to the service station of another company and get the kind of motor fuel that satisfies his requirements at the same price. The consumer is having his day and the refiners and marketers are footing the bill, but just as soon as the three grades of 54 octane number, 70 octane number and 78 octane number become established, the motorist is going to find that unless he wants to sacrifice performance to price via the third grade material, he must pay considerably more than the current price for the regular grade of gasoline, so that eventually, and quite naturally, the consumer will pay for the installation now being made at the refineries."

One of the larger companies which has looked askance at the agitation toward higher antiknock value in regular grade gasolines, it is interesting to note, has moved the octane rating of its gasoline progressively from 60 to 62 octane number, and Saturday two samples of this company's gasoline showed octane ratings of 63.6 and 64, respectively.

While the antiknock rating of the regular grade of gasolines has occupied a great deal of attention in the district recently, it has by no means monopolized the interests of oil trade circles. Opinion as to the possibility of a gasoline tank wagon advance this week or next was not in agreement and strong arguments, for and against, are being heard.

Expect Tank Wagon Raise

Taking up the arguments of those who look for an increase in the gasoline tank wagon price: Crude oil is reported extremely tight in the open market throughout the Mid-Continent, and in East Texas where most of the blame for crude oil and refined products market disturbances is usually placed, it appears that Governor Ross Sterling will not have to worry about injunction suits until next year and is now considering putting the acreage unit basis of proration into effect as soon as the necessary data are available. The increase in the posted price of crude oil will be reflected in inventories.

The advance in the crude oil markets will not only bolster the present tank car markets, but will also reassure the trade. The only consideration which will still have to be taken care of would be in the hands of the refiners themselves, that is, the runs to stills. If the refiners take advantage of the constructive factors now at work and hold their crude runs to stills at current levels, there is no question, so these oil men contend, but that the gasoline tank wagon and service station postings will be advanced.

In the opposing camp there are two principal arguments against the possibility of a gasoline tank wagon price advance. The first is that it would be a dangerous policy to post higher prices when other commodity prices are on the decline, and at a time which would indicate that improvements made in the industry's condition have brought about a higher cost to the consumer. The second is that the real trouble is not in the low tank wagon and service station postings, but in the wide marginal guarantees allowed by the seller to the buyer. That is to say, the refiner who allowed a spread of 5½ to 6 cents below the service station price, and sometimes added from a quarter of a cent to half a cent more for advertising, etc., is not in a position to expect the rigors of his bargain to be minimized by a general price advance. It is felt that these refiners have made their bed and it is up to them to make the best of the difficulties they are now encountering.

For some time the complaint has been heard in Chicago that certain companies are allowing exorbitant rentals on leased stations. One marketers reported that he had offered $50 a month on an "out-of-the-way" station and had lost the deal to another company who offered $300 a month. The latest move has been made by Standard Oil Co. of Indiana. This company, effective October 15, has put rentals on these stations on a gallonage basis, allowing half a cent a gallon on the month's gasoline sales. It is understood that two others of the larger companies are planning to take the same step.

Tank Car Market Strong

The gasoline tank car markets are strong and holding slightly above last week's levels. Further advances appear to be held up until tank wagon postings are raised, and practically all of the business is on a contract basis. Refiners are far behind on their shipments and resellers are reporting some difficulty in obtaining material when they want it. It seems that sellers have permitted their stocks to decline to an unusually low ebb.

There is still a considerable quantity of gasoline moved at prices below the spot market quotations of the majority of sellers, but this is outside of Chicago district proper. One of the larger refiners is reported to have been shipping material to Minneapolis in 20 and 30-car lots at 3 cents, basis Group 3. At Detroit the city's business for six months went to a major refiner at 2.05 cents, basis Group 3. The quantity was 1,200,000 gallons. One company offered 7 cents delivered in Detroit, for one month, or 200,000 gallons, and a third company offered 6.22 cents, delivered in Detroit, on the six months.

In Chicago the underselling, by various methods, is fairly well restricted to the retail side. Here the trackage station and some of the franchise station operators have taken up in earnest the policy of giving away glass tumblers, fancy trinkets, quarts of oil, car washings and greasings, to likely customers. These operators have hired bevies of young girls, in uniforms, to distribute handbills and coax in the business. The price of the gasoline at the trackage stations is well above the low mark set before Standard Oil Co. of Indiana and Shell Petroleum Corp., led a brief price cutting war. The average trackage station posting is a half-cent below Stanolind Blue, but at these stations the gasoline is credited in displays with octane ratings of above 60, and gravities of above 62.

Possibly in response to the continued sale of "branded" lubricating oils in department stores, etc., in 5-gallon lots at prices ranging from 11 to 15 cents a quart, one of the major companies is offering 5 gallons of one of its branded lubricating oils at $2.50 in the territory, and at some of its stations a gallon may be bought for 50 cents. Up to Monday none of the other majors had indicated that they would make similar offers.

Gasoline Tank Car Prices

Quotations on the 58-60 gravity, 437 endpoint material were unchanged from last week, but in the higher tests fractional advances are noted. U. S. Motor was 3⅞ to 4¼ cents, with the excess material in the district apparently cleared up by continued refinery buying. The 60-62 gravity, 400 endpoint gasoline moved up an eighth of a cent to 4⅛ and 4½ cents. The 64-66 375 endpoint material is quoted at 4½ to 4¾ cents, and the 68-70 360 endpoint gasoline has advanced similarly to 4⅞ to 5⅛ cents. The blended gasoline, which is just now beginning to be quoted, moved up a quarter of a cent to 4 and 4⅛ cents. There was no change in the 50-52 450 endpoint naphtha which remains at 3¾ to 4 cents.

One of the major troubles in the gasoline marketing business is reported well on the way to being cleared up. This is in connection with the work of the Gasoline Tax Evasion Committee, headed by Frank V. Martinek of Standard Oil Co. of Indiana. Through efforts initiated by the members of this committee similar groups have been formed in Michigan, eastern Missouri, western Missouri and Kansas. Gasoline Tax Evasion committees are now functioning in these states and Illinois, Indiana and Wisconsin. The original committee (Illinois) has announced that similar groups are to be organized in Minnesota, North Dakota, South Dakota, Nebraska and Oklahoma.

A national committee, made up of the chairmen of the state groups, will meet in Chicago November 9 and 10, according to Mr. Martinek. The problem of gasoline tax evasion figures prominently on the program of the American Petroleum Institute which meets here November 10-12. So far, the campaign has apparently been directed to interest the marketers chiefly. It is probable, however, that following the American Petroleum Institute marketing sessions the move will be made among refiners to take an active part in the fight against gasoline bootleggers. It is understood that the Western Petroleum Refiners Association is keenly interested in the progress being made by the marketers in this connection.

Several cool days in the past week have given an encouraging note to the burning oil markets, and fuel oil and gas oil distributors are reporting other conditions affecting these markets to be favorable. For any considerable movement of oil for heating purposes, however, the sellers must wait for the appearance of cold winds which are about due. Some of the larger distributors have advanced their tank wagon prices a fraction of a cent.

Kerosene

While there has been little if any increase in the volume of kerosene moving, these markets have stiffened and are firm at 2 to 2⅛ cents for the 41-43 water white material, and 2⅛ to 2⅜ cents for the 42-44 water white kerosene. Improvement in the heavier distillate markets is responsible.

Fuel Oils and Gas Oils

Fuel oil and gas oil markets are reflecting an increased demand and a comparative scarcity of suitable material. Several refiners report that they are very low on good zero test oils and are having some difficulty in finding sufficient material for their own requirements. The 28-30 zero fuel oil is said to be prac-

(Continued on Page 81)

Improved Sentiment on East Coast

Firming in Export Market on the Gulf Imparts Constructive Feeling on Atlantic Coast. Octane Number Situation

By A. E. Mockler
New York Bureau, The Oil and Gas Journal, Rooms 1919-21, No. 154 Nassau Street

NEW YORK, Nov. 2.—Improved sentiment has developed in the eastern gasoline situation during the past week, and a steady undertone is in evidence. The firming up in the position of the export market at the Gulf has also imparted a more constructive feeling in eastern trade circles.

While market sentiment is better, sellers still complain that in many instances buyers are "long on octane and short on price." Apparently, eastern traders have settled on 65 octane number as the minimum requirement covering purchases of U. S. Motor gasoline in the open market, and any motor fuel testing under that level is compelled to take the short end of a quarter cent differential.

With the craze for higher antiknock value motor fuels spreading refinery divisions of leading integrated companies are coming in for increased pressure for the stepping up of gasoline quality, and it is probable that this trend will force a considerable program of plant improvement during 1932, with particular reference to the overhauling and modernization of cracking equipment.

Aside from the gasoline market, there have been few noteworthy developments in East Coast trade circles. Interest is centering in the forthcoming annual meeting of the A.P.I. in Chicago next week, and it is probable that an unusually large delegation of eastern oil men will make the trip to the Windy City to sit in on the various group and general meetings scheduled. With the industry in its present position of uncertainty, straws indicating the probable direction of the "wind" will be eagerly grasped.

Refinery Gasoline

Refiners continue to quote the market for U. S. Motor in tank car lots at a range of 5½ to 6¼ cents per gallons, f.o.b. terminals, these quotations covering motor fuel of 65 octane number or higher. Gasoline testing below 65 octane number is available at 5¼ cents in a few instances, and it is expected that this grade will continue to show this differential.

There has been a good movement during the week, weather conditions again being favorable for fairly heavy consumption. With the general lowering of posted prices to the 5½-cent level, jobbers in most instances have again come back into the market for supplies in a large way, filling their storage in anticipation of continued good fall demand.

Some inquiry has been noted in the open market for Gulf or California gasolines in cargo lots, but buyers and potential sellers as yet have not come together on a workable price basis. Gulf sellers are holding 65 octane number gasoline at an inside price of 4¼ cents per gallon, f.o.b., with buyers unwilling to go over 4 cents. California motor fuel of this grade is being sought around the 4-cent level but sellers on the coast are likewise holding at an eighth to a quarter cent per gallon over this figure.

Stocks of gasoline at bulk terminals in the East Coast area amounted to 7,546,000 bbls. on October 24, a slight increase over the 7,318,000 bbls. on hand at the close of the previous week, but approximately a half million barrels under the stocks of 7,927,000 bbls. similarly held on October 25, last year. As of October 24, there were 1,793,000 bbls. of gasoline in transit for the East Coast area, against 1,817,000 bbls. afloat at the close of the previous week and 1,784,000 bbls. on the comparable date in 1930.

Tank Wagon Gasoline

No general revisions have developed in the tank wagon and service station gasoline price structures in East Coast territory during the week, and aside from a few minor adjustments at isolated points the market has been without change.

Consumption of motor fuel in this area is running into unexpectedly large totals thus far in the year, and with refinery activities held down at most plants it is expected that further withdrawals of storage stocks will be witnessed during the remainder of the year, further strengthening the statistical position of the market.

There is little emphasis being placed upon third grades in local marketing circles, and marketers are hopeful that the cheaper product can be "soft pedaled" and held back as an ace in the hole with which to counter future outbreaks of price cutting.

Premium fuels, on the other hand, are slowly coming back into their own, but the seasonal expansion in the demand for the higher priced product is being held back both by the unseasonably warm weather, and the emphasis which some marketers are placing on their regular brands of motor fuel, for which premium performance at ordinary price is being claimed.

Kerosene

A better undertone has developed in the kerosene market, reflecting the firmer situation in Gulf export markets. Leading sellers locally are now firm at 5 cents per gallon for 41-43 water white in tank car lots, and an improved movement is noted.

Tank wagon kerosene continues without price change, with a slightly increased gallonage reported from some parts of the territory, although movement over the area as a whole is not up to normal for this season of the year.

Lubs

Recent price advances in the cylinder oil market have been maintained, and buyers who were deferring purchases in the hope of an easing off in the price basis are gradually coming back into the market as the strength of present quotations is demonstrated by the solid front presented by refiners. Domestic movement showed a little gain during the week, and more inquiry was noted in the export field. No further price revisions transpired.

Industrial oils were again without change in price during the week, with a quiet routine demand continuing.

Wax

Volume of business on fully refined wax showed a little gain during the period under review, although business still leaves much to be desired. Buyers are endeavoring to force concessions on purchases covering requirements for the remainder of the year, with refiners in most instances unwilling to go under quoted levels.

Export demand for wax, both crude scale and fully refined, has not come up to expectations, and quiet in the export division of the market is expected to react against the stability of the present price basis. Refiners, however, are curtailing output in an effort to hold prices at present levels, and the outcome remains uncertain.

Petrolatum

There has been a moderately active demand for petrolatum from the pharmaceutical manufacturing trade during the past few weeks, and the market has steadied at recently lowered price levels.

Contract withdrawals of petrolatum, particularly on the higher qualities, have been increased somewhat, and there has been a slight pickup in spot sales, both for domestic distribution and for shipment abroad.

Fuel Oil

Bunker "C" has been in quiet position throughout the week, refiners continuing to adhere to the posted price of 60 cents per barrel, bulk f.o.b. refinery terminals. Marine interests are drawing stocks in fair volume, while spot sales are holding up fairly well.

The furnace oil division of the market has been quite active during the week. Retail prices are well maintained, with a good movement reported, and some inquiry for either Gulf or California furnace oil in cargo lots has developed, with a rather marked scarcity of offerings at prices deemed attractive to the buyer.

Diesel Oil

Routine trading continues the only feature of the Diesel oil market, with the posted price of $1.30 per barrel in bulk at terminals, the lowest price on record, still prevailing.

Domestic consumption of Diesel oil is picking up slowly, but the demand from shipping interests is still fairly well maintained, and refiners are optimistic over the outlook, expressing the belief that sales totals for the full year will compare favorably with 1930 gallonage.

Gas Oil

Spot gas oil, of 28 gravity plus, continues to command 4 cents per gallon in tank car lots in the refinery market, a fairly well sustained demand being reported.

The majority of current shipments to industrial consumers are going out on term contracts, and refiners are now beginning to shape plans for lining up this business for 1932, although it is not yet certain what price will be named for the coming year. It is expected, however, that contracts will be open, specifying a "top" for the year, with deliveries to be made at prevailing prices.

Export Market

While there has been no further trading in cargo lots in the Gulf export market, a firmer tone is in evidence. Navy is quoted at a range of 3¾ to 3⅞ cents per gallon, with 60-62 400 endpoint, and 61-63 390 endpoint, nominal at 4⅛ cents per gallon, and 64-66 375 endpoint, steady at 4¼ cents per gallon. No cargo inquiries were in the market at the time of writing.

Kerosene has likewise been dull in the Gulf export market, although the market has been strongly held at 3¾ cents for 41-43 water white and 3½ to 3¾ cents per gallon for 44 prime white.

No export sales of crude oil were reported during the week.

Petroleum Exports

There was a slight upturn in export movement of refined petroleum products locally during the past week, but new business continued at a minimum, with inquiries relatively scarce, and traders are resigned to a continued dull export market over the remainder of the year.

The following table shows principal exports of refined petroleum products from the port of New York for the past three weeks (all figures in gallons unless noted):

	Week ended		
	Oct. 24	Oct. 17	Oct. 10
Gasoline	305,000	445,000	356,000
Naphtha	160,000	60,000	480,000
Kerosene	43,000	6,000	95,000
Fuel oil	43,000	65,000	18,000
Lubricating oil	981,000	500,000	810,000
Petroleum, ref'd.	1,245,000	1,080,000	850,000
	Pounds		
Petrolatum			6,000
Paraffin wax	770,000	490,000	990,000
Refined	223,000	615,000	350,000
Scale	150,000	110,000	400,000
Lub. grease	1,001,000	350,000	650,000

Irregularity in foreign oil markets, resulting from continued expansion of Russian and Rumanian marketing operations, is contributing to the lack of demand for refined products for shipment out of North Atlantic ports, and the outlook indicates an intensification of this situation, rather than any improvement, in the near future.

Imports

Imports of crude and refined petroleum at the principal United States ports for the week ended October 24 totaled 1,139,000 bbls., a daily average of 162,714 bbls., compared with 1,726,000 bbls., a daily average of 246,571 bbls. for the previous week and a daily average of 211,500 bbls. for the four weeks ended October 24. Details follow:

	Bbls. of 42 gals.
At Atlantic Coast ports—	
Baltimore	133,000
New York	492,000
Philadelphia	189,000
Others	265,000
Total	1,079,000
Daily average	154,143
At Gulf Coast ports—	
Galveston district	60,000
Total	60,000
Daily average	8,571
At all United States ports—	
Total	1,139,000
Daily average	162,714
Daily average four weeks	211,500

Distribution of total imports is as follows:

Crude	700,000
Gasoline	146,000
Gas oil	11,000
Fuel oil	282,000

California Oil Receipts

Receipts of California crude and refined petroleum at Atlantic and Gulf Coast ports for the week ended October 24 totaled 146,000 bbls., a daily average of 20,857 bbls., compared with 551,000 bbls., a daily average of 78,714 bbls. for the previous week, and a daily average of 50,643 bbls. for the four weeks ended October 24. Details follow:

	Bbls. of 42 gals.
At Atlantic Coast Ports—	
New York	22,000
Philadelphia	118,000
Total	140,000
Daily average	20,000
At Gulf Coast ports—	
Total	6,000
Daily average	857
At Atlantic and Gulf Coast ports—	
Total	146,000
Daily average	20,857
Daily average four weeks	50,643

Distribution of total California oil receipts is as follows:

Gasoline	146,000

There was only one shipment of California gasoline eastward reported during the week, a cargo of 90,000 bbls. on the tanker Chester O. Swain for New York.

Charter Market

Another shipment of Rumanian gasoline, either to Detroit or to the Atlantic Seaboard, is indicated by a charter closed during the week for movement of the oil.

There was considerable activity in the tanker charter market during the week, fixtures being more numerous than for some weeks past.

The week's fixtures are as follows:

Steamer Arcola (Italian) 3,893 tons net, clean, Constanza to North of Hatteras or Montreal, $2.15, prompt loading.

Motorship Freshmoor (British) 560 tons net, lubricating oil, Gulf to United Kingdom/Continent, $4.75, November loading.

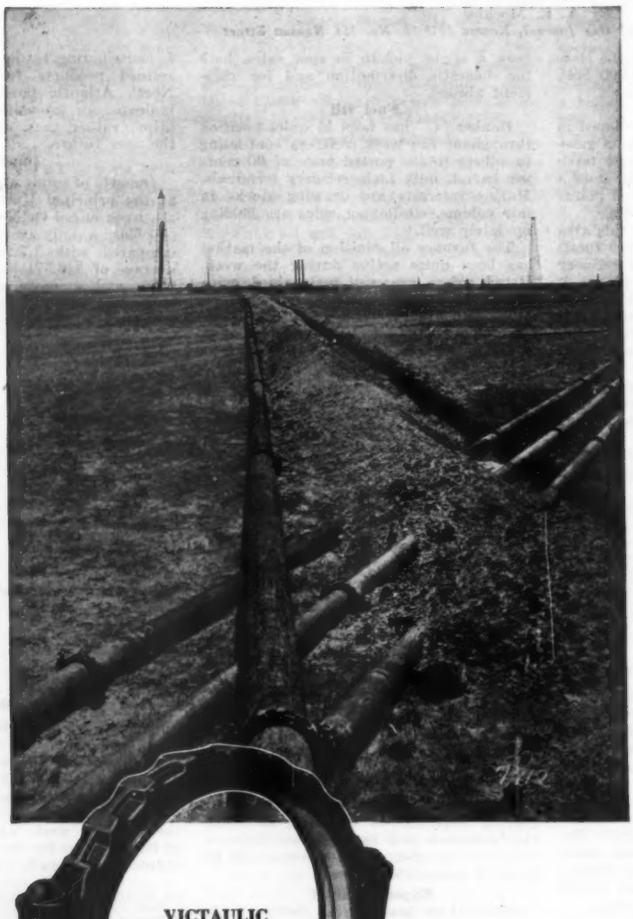
Steamer Lise (Norwegian) 3,578 tons net, clean, Black Sea to the Continent, 7/-, November loading.

Steamer Portofino (Italian) 8,000 tons, gas oil, Black Sea to Dunkirk/Rouen, 8/3, November loading.

Steamer Celeno (Italian) 3,800 tons, Diesel oil, Constanza to Venice, Trieste, or Monopoli, basis 8/3, November loading.

Steamer Aase Maersk (Danish) 7,200

"For every joint on the line"



Lay 'em and Leave 'em with Victaulic Couplings

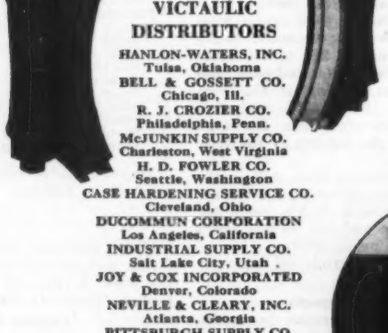
Couple your flow and lease lines with Victaulic Couplings. Even lease workers who are inexperienced with this type coupling, set speed records every day in hooking up all sizes of pipe. The only tool needed is a speed wrench.

For ease and speed of assembly, leak-proof service and complete salvage value there is no substitute for *Victaulic Couplings.*

* * *

Victaulic Couplings are available in all sizes from ¾" up for vacuum and pressure—for steel, wrought-iron and cast-iron pipe. Mail coupon below for descriptive bulletin.

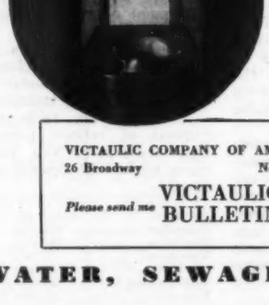
VICTAULIC COMPANY OF AMERICA
26 Broadway New York



VICTAULIC DISTRIBUTORS

HANLON-WATERS, INC.
Tulsa, Oklahoma
BELL & GOSSETT CO.
Chicago, Ill.
R. J. CROZIER CO.
Philadelphia, Penn.
McJUNKIN SUPPLY CO.
Charleston, West Virginia
H. D. FOWLER CO.
Seattle, Washington
CASE HARDENING SERVICE CO.
Cleveland, Ohio
DUCOMMUN CORPORATION
Los Angeles, California
INDUSTRIAL SUPPLY CO.
Salt Lake City, Utah
JOY & COX INCORPORATED
Denver, Colorado
NEVILLE & CLEARY, INC.
Atlanta, Georgia
PITTSBURGH SUPPLY CO.
Pittsburgh, Penn.
MERRITT M. STONE CO.
St. Louis, Missouri
F. S. VAN BERGEN
Minneapolis, Minn.
VIRGINIA ENGINEERING CO.
Richmond, Virginia
A. B. CAREY
Mexico, D. F.
C. H. ELSTNER
Monterrey, N. L. Mexico
VICTAULIC COMPANY OF CANADA, LTD.
Toronto, Ontario, Canada
LE VALLEY, McLEOD, FINCAID CO., INC.
Elmira, New York

"For every joint on the line"



FLEXIBLE LEAK-PROOF
VICTAULIC
REG. U.S. PAT. OFF.
PIPE COUPLINGS

VICTAULIC COMPANY OF AMERICA
26 Broadway New York
Please send me VICTAULIC BULLETIN No. 1
Name _____
Address _____

FOR OIL, GAS, WATER, SEWAGE, COMPRESSED AIR, ETC.

tons, Diesel, gas, and fuel oil, Black Sea to Algiers, 5/9, November loading.

Steamer Svolder (Norwegian) 3,772 tons net, clean, Black Sea to Shanghai, 19/6, November loading.

Motorship Attila (Norwegian) 4,729 tons net, clean, Palembang to Mediterranean, basis 13/-, December loading.

WATCHFUL WAITING IN CHICAGO MARKETS

(Continued from Page 78)

tically withdrawn from the open market list and the material available from plant operations, at at least two large refineries, is being run to the cracking units. In the markets it is expected that the movement toward higher octane ratings in gasolines will cause a general tightening up due to expansion in cracking operations. The 18-22 fuel oil is quoted at 30 to 35 cents a barrel, and the 22-26 fuel oil is quoted at 35 to 40 cents a barrel. The 28-30 zero fuel oil is 50 to 55 cents a barrel.

The 32-36 industrial gas oil is offered at 1½ to 1⅝ cents, and the 32-36 zero gas oil is quoted at 1⅝ to 1⅞ cents. The 38-40 straw distillate is quoted at 1¾ to 2 cents.

The strong upward tendency in the tank wagon markets is not properly reflected, it is said, in the tank car markets, but advances in the latter markets are looked for within the next two weeks.

CANADIAN FIELDS

(Continued from Page 46)

Gas Co. is jointly controlled by the Hudson's Bay Co. of London, England, and the Continental Oil Co. of Delaware.

In addition to the Hudson's Bay Oil & Gas Co., the Nordon Corp., the Texas Oil Co. of Canada, Vulcan Oils, Ltd., of Calgary and a number of smaller leaseholders have acreage in the Keho Lake area. Following the strike in the Bentons some months ago practically all close-in acreage was tied up. A tentative agreement for location of No. 2 Keho on the William Oliver farm south of No. 1 was made some time ago. The field itself lies approximately 18 miles northwest of Lethbridge.

Spring Coulee Abandoned

On the Spring Coulee structure, Alberta Pacific Consolidated Oils' No. 1, LSD 12, Section 15-4-23w4, which has been standing for some months at close to 6,000 feet, has been definitely abandoned. The test was started in March, 1930, as a joint venture of the Alberta Pacific Co. and Canadian Exploration Co. on acreage held by the latter. Drilling was carried to an ultimate depth of approximately 6,196 feet, making it probably the deepest test ever drilled in the Alberta border areas. Oil and gas showings were met at numerous horizons but no commercial production, though the indications continued promising till the last few feet of drilling. Plans to shoot the well in several different sands were discussed, but it was decided to abandon the hole and pull the casing. The test is reported to have cost slightly more than $250,000 with considerable casing and equipment still to be salvaged.

Alberta Pacific Consolidated Oils, Ltd., some time ago abandoned its Cole-English test near Taber, in LSD 3, Section 11-10-17w4; and also discontinued work on Weymarn's No. 2, LSD 5, Section 7-6-1w5, in the Pincher Creek area. The latter test is being completed by Weymarn Petroleums, Ltd. No announcement has been made as to Alberta Pacific's plans for future development.

South Turner Valley

In South Turner Valley, Hylo Oils' No. 1, LSD 12, Section 4-19-2w5, is testing production from the Dalhousie sands at 4,965 feet. Control head has been installed and tankage provided to handle the crude which is 34.5 gravity, considerably different from the light crudes ordinarily encountered in the upper horizons of the Turner Valley Field. Following the strike the crude rose till it filled the casing and when swabbing was started the well commenced to flow, producing approximately 300 bbls. in an hour. Gas pressure then blew the oil over the derrick, and caving shut off the flow. The well has been cleaned out and casing run. Production will probably be taken from the Dalhousie, but if it fails to hold up the test will be deepened to the naphtha horizon in the lime, a distance of about 500 feet. In the meantime the test may be drilled 10 or 15 feet deeper into the Dalhousie.

Alberta Production

Official figures issued by the Alberta mines department show a total production from all fields for September of 90,720 bbls. against 129,007 bbls. in September, 1930, a decrease of 38,287 bbls. The detailed figures are as follows:

	September—	
	1931	1930
Turner Valley naphtha	82,845	118,544
Turner Valley light crude ..	1,594	2,360
Red Coulee light crude	4,692	7,072
Wainwright heavy crude ...	390	518
Ribstone heavy crude	1,199	513

The September totals represent a slight decline from the August production of 92,812 bbls., and bring the total Alberta production for the nine months of 1931 to 1,280,689 bbls. Pipe line runs from the Turner Valley Field for September were previously reported at 66,496 bbls., the difference of 17,943 bbls. presumably representing direct sales to consumers.

Turner Valley Unitization

The subcommittee of the advisory committee on conservation has taken a further step in connection with the Turner Valley unitization scheme by submitting a final revision of the proposed pooling agreement. The most important change relates to the marketing of gas. In the original agreement a rate of 5 cents was set; this has now been placed at 4 cents per 1,000 feet, which price has been definitely approved by city officials, the Canadian Western Natural Gas Co. and the Alberta Public Utilities Commission. The subcommittee estimates a total of $264,000 will have to be paid to Turner Valley companies for gas purchased annually. There is, however, an estimated saving in operating costs of $121,000 to the company; and the balance of $143,000 is to be met partly by the company and partly by an increase in the domestic rates of 1 cent per 1,000 feet. The committe recommends that the company be unrestricted as to commercial and industrial rates until the increase in business reimburses the company at least in part for the extra outlay.

Under the revised scheme, 10 or 12 of the 85 producing wells will be operated. Revenue from the naphtha will be divided pro rata among the producing companies. The gas flow of the field will be strictly limited to 100,000,000 feet a day. Gas from the wells operated under the agreement will be purchased by the Canadian Western Natural Gas Co. at 4 cents per 1,000 feet and the proceeds divided among the producing oil companies in a similar manner to the division of naphtha proceeds.

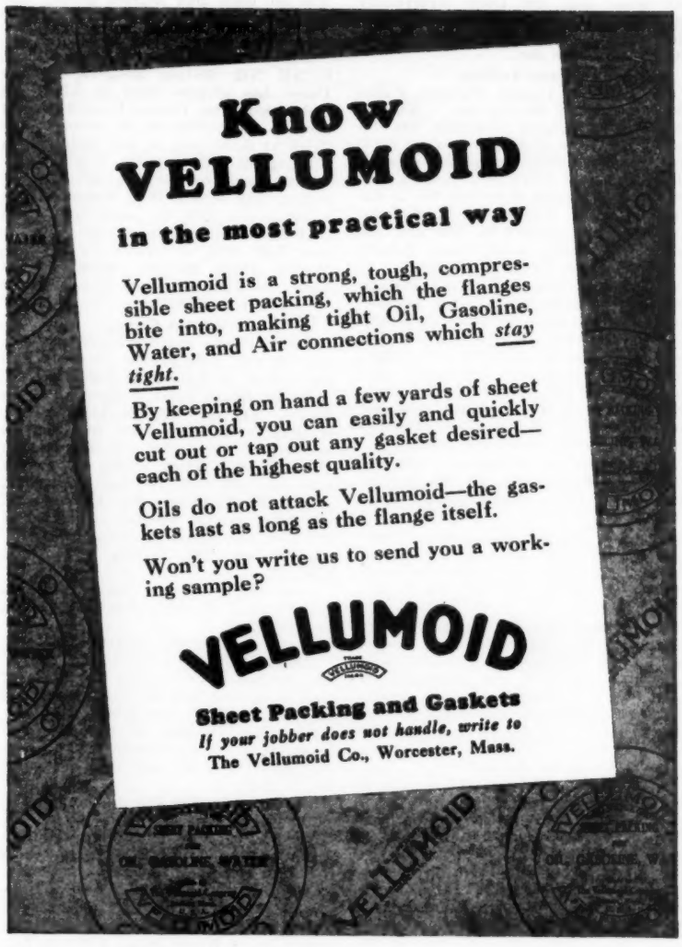
Frank P. Fisher, chairman of the subcommittee, estimates the saving in field operation will be approximately ten times the necessary cost of administering the unitization scheme. The administration staff will represent equally the independent and Imperial groups with a chairman appointed by the Public Utilities Commission who would represent the gas consumers, the gas company and others interested.

The report points out that under the scheme the wells to be operated would be those with the highest yield of naphtha in proportion of gas flow. Thus the companies would obtain the greatest possible naphtha revenue with, for the first time, a revenue from gas sales. The report points out that a well requiring 350,000 feet of gas to produce a barrel of naphtha would waste $41 worth of gas to get $3 naphtha production. Under the agreement the same gas would ultimately net $28 while the incidental naphtha would be recovered in due time.

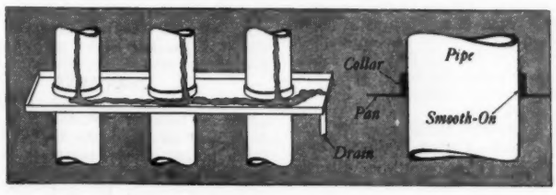
The revised agreement is now being considered by the independent operators.

Border Gasser

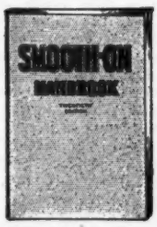
On the international Reserve Dome structure east of Coutts, Mayland Southern's No. 1, LSD 13, Section 4-1-9w4, is reported at 2,440 feet and setting 10-inch casing. The test is thought to be near the top of the Sunburst sand, a potential producing horizon. It was a commercial gasser in the upper sands, getting production around 1,890 and 2,180 feet, in sands which in other bor-


Know
VELLUMOID
in the most practical way
Vellumoid is a strong, tough, compressible sheet packing, which the flanges bite into, making tight Oil, Gasoline, Water, and Air connections which stay tight.
By keeping on hand a few yards of sheet Vellumoid, you can easily and quickly cut out or tap out any gasket desired—each of the highest quality.
Oils do not attack Vellumoid—the gaskets last as long as the flange itself.
Won't you write us to send you a working sample?
VELLUMOID
Sheet Packing and Gaskets
If your jobber does not handle, write to
The Vellumoid Co., Worcester, Mass.

To STOP TRICKLING of OIL or WATER DOWN the SURFACE of VERTICAL PIPES



THIS idea is equally practical in keeping water from running down the outside of any pipe post, pipe, etc. Umbrellas similarly fastened onto metal smoke stacks above the roof line remain 100 per cent efficient in shedding rain water, as heat, expansion, contraction and vibration do not crack or loosen the hardened Smooth-On.



For stopping leakage of water, steam, oil, gas, etc., under any pressure and temperature conditions, follow the diagrams and instructions in the Smooth-On Handbook. The seals will be permanent, and the cost will be less than by any other practical method.

SMOOTH-ON MFG. CO., Dept. 66,
570 Communipaw Ave., Jersey City, N. J.
Please send copy of SMOOTH-ON HANDBOOK
Name _____
Address _____
11-5-31

Mail the coupon for free Smooth-On Handbook and get Smooth-On No. 1 in 1 or 5-lb. can or 25 or 100-lb. keg from your supply house or if necessary from us direct.

Do it with SMOOTH-ON

der areas that are lower structurally have shown water. The aggregate gas flow is estimated between 6,000,000 and 10,000,000 feet a day.

Ontario Drilling

In Middlesex County, Ontario, Union Gas Co.'s No. 1 Ekfrid, Lot 7, Concession 5 South, Ekfrid Township, has finished a dry hole at 3,582 feet after drilling to the granite. Except for a small show of gas at 1,175 feet, nothing was encountered. Union Gas Co.'s No. 2 Ekfrid, Lot 10, Concession 6, Caradoc Township, has spudded in. The new test is 10½ miles north of No. 1 and 18 miles northeast of the Newbury gas area.

In Raleigh Township, Kent County, Olga Oil & Gas Co.'s No. 3, Lot 19, Concession 8, got gas production at several horizons between 1,550 and 1,650 feet aggregating around 100,000 feet a day; and is being shot with 300 quarts. The initial shows are somewhat similar to those in Olga's No. 1, which was east and north of No. 3 and which developed a shot production of 582,000 feet.

Luke Smith of Chatham is reported drilling a shallow test for oil in Concession 12, Dover Township, in Kent County.

In the Petrolia-Enniskillen Field, Lambton County, the pumping rig on the A. Telsey oil farm north of Petrolia, formerly owned by J. L. Englehart, was destroyed by fire.

In the eastern field, Continental Oil Corp. is drilling a series of tests for gas in Binbrook Township. Some five tests have been completed, the production at around 500 feet averaging about 50,000 feet a day. The tests are stated to cost approximately $1,000 each and the wells are expected to continue in production between 10 and 15 years.

An important wildcat is being started by Corona Holdings, Ltd., of Toronto on acreage north of Tillsonburg. Considerable gas production has been developed by Acme Gas & Oil Co. and other interests in Norfolk County south of Tillsonburg but the area north had not been tested by deep drilling. Shallow drilling near Delhi many years ago got top show oil in small quantities, but nothing of commercial value. Corona Holdings, Ltd., is planning to test the deeper horizons in this area for gas.

In North Cayuga Township, Haldimand County, Ontario, Contact Natural Gas Syndicate has acquired leases on 500 acres and is planning to drill for gas this fall. The acreage is close to proven territory where production, running about 100,000 feet per day, is encountered in shallow wells at 500 to 600 feet depth. The syndicate is headed by J. M. Aiken and Cobalt Contact Mines, Ltd., holds a 40 per cent interest.

Imperial Drilling

In the South Turner Valley Field, Sterling Pacific Oil Co.'s No. 2, LSD 10, Section 33-18-2w5, is reported drilling in shale at 4,877 feet.

In the border areas, Texas-Imperial's No. 1, LSD 14, Section 22-8-22w4, is drilling in black shale at 3,832 feet with casing lowered to 3,800 feet.

Moose Mountain Test

In the Moose Mountain area, west of Calgary, Graystone Consolidated's No. 2 Signal Hill, LSD 9, Section 34-33-5w5, has resumed work in charge of A. P. Phillips, formerly with Ranchmen's Oil & Gas Co.'s Aldersyde test. W. H. Marriott is in charge of a second tour; and the crews are enlarging the hole to 6½-inch, which will be carried to the Dalhousie sands. At last reports the small hole was down to 4,193 feet.

ROCKY MOUNTAIN AREA

(Continued from Page 43)

inch bit with the second Frontier at 1,600 feet as the objective. It is 125 feet north of a gas well drilled by the Ohio Oil Co.

Big Horn County

Utah Southern Oil Co.'s No. 3 Government, NE cor. SW, Section 29-56-97, Garland Dome, heretofore reported as a completion, made 1,500 bbls. per day through tubing from the Madison lime at a total depth of 4,326 feet. It also made 25,000,000 feet of gas from the upper Madison through a bradenhead. The oil tests 20.4 degrees gravity and has an asphalt base.

Natrona County

Midwest Refining Co.'s No. 11 Middy, C NE NE, Section 23-35-79, Midway Dome, has plugged back to 5,254 feet and ripped the 7-inch. It will cement back to the bottom of the second Wall Creek at 5,193 feet. If not successful in shutting off bottom water, it will be cemented back to the 9⅝-inch and redrilled. The second Wall Creek was on a production test for some time when first drilled and again will be tested. A new hole will be drilled to test the Muddy which showed saturation, but which could not be produced on account of mechanical difficulties.

Weston County

Julius Peters and others' No. 1 Witzell, SE cor. NW, Section 30-46-64, Fiddler Creek, is drilling at 2,885 feet.

In the Osage Field, Federal Oil Co.'s No. 1, NE cor. SE, Section 15-46-64, is shut down below 1,400 feet. Sandell and others' No. 1, SE SW SE, Section 12-46-64, is running casing on top of sand at 1,277 feet. The hole is showing oil. A. N. Paysano's No. 1 Bock, NE cor. NW, Section 6-46-63, is drilling at 200 feet, and Egaso Operating Co.'s No. 15, SE cor. NE, Section 17-46-63, is fishing.

Gose Oil Syndicate's No. 1, NE cor., Section 28-47-63, Soda Creek, is drilling at 5,027 feet.

Niobrara County

Indian Petroleum Co.'s No. 1, NE NW NE, Section 7-35-65, Lance Creek, an old well being deepened to the Sundance, is bottomed at 4,175 feet where it has cemented the 4½-inch. It is believed to be on top of the Sundance. It will be the second test to that horizon drilled in the field.

Carbon County

Prairie Oil & Gas Co.'s No. 1, SE SE SW, Section 29-27-89, Bunker Hill, is drilling at 5,874 feet in shale and lime shells. Producers & Refiners Corp.'s No. 7 Wertz Dome, Section 7-26-89, is preparing to cement casing at 3,637 feet. Total depth is 3,688 feet. Same company's No. 4 Wertz Dome, SW cor. SE, Section 7-26-89, is drilling at 3,525 feet in hard shale.

Fremont County

Kinney-Coastal Oil Co.'s No. 1 Chatteron-Weeks, C SW NE, Section 22-3n-1w, Pilot Butte, being tested, is now bailing 78 bbls. of high gravity oil from the Muddy sand at a total depth of 3,631 feet and making 2,000,000 feet of gas. The gas has shown no increase, but the oil increased from almost nothing.

MONTANA

The Department of the Interior has asked for bids for government royalty oil from its holdings in the Cat Creek Field for a period of one, three or five years, beginning February 1, 1932. The Government's royalty oil from the field in 1930 amounted to 19,600 bbls.

Glacier County

L. B. O'Neill's No. 1 Cummings, C SW, Section 22-36-5w, in the Cut Bank Field, is reported to have come in as a big gasser at around 2,700 feet. It is a little more than a mile north of the nearest producer and the same distance east of No. 1 Michaels, which was abandoned in the early development of the field. It cemented pipe at 2,650 feet on top of the Sunburst sand and had 4,000,000 feet of gas in sand in the base of the Colorado shale and in porous horizons of the Kootenai. The unconfirmed report says it came in for 28,000,000 feet. O'Neils No. 1 McNeil, C NE, Section 23-35-5w, is drilling at 1,900 feet.

R. C. Tarrant's No. 1 Hogland, NW cor. SW, Section 13-34-6w, to the southwest of the gas field, cemented 10-inch at 616 feet and shut down for the winter.

Fulton Petroleum Co.'s No. 1 Blackfeet, SW NE NE, Section 28-36-12w, Milk River district, is drilling at 2,710 feet in shale.

Carbon County

Carbon Oil & Gas Co.'s No. 1 Armstrong, SW cor. NW, Section 7-7s-22, Dry Creek, has cleaned up its fishing job and is drilling at 5,088 feet in shale. The Dakota is expected somewhere between 5,800 and 6,000 feet. Ohio Oil Co.'s No. 1 Chapman, C SW SW, Section 2-7s-21, is drilling at 4,954 feet in the Mowry shale with the Muddy sand of the Dakota series as the next objective. No. 2 Souders, C NE SW, Section 2-7-21, has cellar completed, and its No. 2 Montana Industrial, C NW NE, Section 11-7-21, has rig completed.

Toole County

Askalta Oil Co., Ltd.'s No. 2 Farbo, SW SE NE, Section 2-37-4w, Border Field, is drilling at 2,000 feet, and Cosmos Petroleum, Inc.'s No. 3 Iowa Holding, NW NE SE, Section 2-37-4w, has rig up. Oregon Oil Syndicate's No. 1 Barthelote, SW NE SE, Section 20-36-2e, Barthelote district, is drilling below 1,500 feet and making 1,000,000 feet of gas from sandy shale at 1,295 feet and sand at 1,345-53 feet.

Liberty County

Liberty Gas Co.'s No. 1 Corwin Land, C SW SW, Section 12-36-5e, Bear's Den, was abandoned at 2,234 feet, 9 feet in the Madison lime. It had a small quantity of water in the Ellis-Madison contact at 2,225 feet and a small show of gas in the Sunburst at 1,828-36 feet. G. G. Howard's No. 2 Schoonover, C SE NE, Section 13-36-5e, is shut down at 1,400 feet. Peoples Oil & Gas Co.'s No. 1 First National Bank, C SE NW, Section 17-36-6e, is drilling at 1,800 feet with the 8¼-inch at 1,760 feet. The 10-inch was cemented at 1,285 feet.

The California Co.'s No. 1 Eleanor, SE SE, Section 11-33-6e, Utopia district, is bottomed at 3,264 feet in sand and cleaning out to test. It had gas in sand at 3,219-23 feet and oil saturation from 3,228 feet to bottom.

Teton County

California Co.'s No. 1 Sullivan, NW NE NW, Section 34-27-7w, Bynum district, is drilling at 2,140 feet.

Cascade County

Buscher & Cassidy's No. 1 Johnson, NE cor. SE, Section 19-22-3e, Benton Lake, is bottomed at 1,010 feet and fishing for tools. Charles Merz and others' No. 1 Sheffelt, SE cor. SW, Section 4-21-4e, is spudding at 100 feet.

Rosebud County

Prairie Oil & Gas Co.'s No. 1-XX, Contract 3, NE SW NW, Section 26-10n-39, Porcupine Dome, is drilling at 4,285 feet in dark lime.

UTAH

Utah Southern Oil Co.'s No. 1 Balsey, C NE NE, Section 31-23-21, Salt Valley Dome in Grand County, is drilling at 4,243 feet in salt. This is a test started with cable tools to explore the lower Pennsylvanian and Ordovician below the salt beds. The salt already has been penetrated to a greater thickness than their total had been estimated and there is no datum or correlation from which to revise the estimate of their total thickness and thus indicate at what depth the objective horizons may lie. At a total depth of 3,500 feet, it averaged 15 bbls. of oil per day on a test.

IDAHO

R. J. Berry and others' No. 1 Kramlich, Section 5-9n-4w, on the Crystal Dome in Payette County, (Ohio Oil Co.) has run 8¼-inch to top of sand at 2,045 feet and will cement and drill in. This is the sand which in a well drilled nearby showed a large volume of gas but which lost the hole before a test could be made. So far no gas is showing in the present test.

SOUTH DAKOTA

Gypsy Oil Co.'s No. 1 Hunter, C NE SW, Section 28-3n-16e, Wall structure, Pennington County, is bottomed at 4,929 feet and reaming from 4,922 feet to bottom to set the 7-inch.

The Barker Structure Drilling Co. has been organized by stockholders of the Black Hills Petroleum Co. to develop the Barker structure. It went back into No. 1 Rockford, SE NE SE, Section 28-6s-2e, to salvage pipe at a total depth of 1,370 feet. It was considered an edge well. Upon attempting to pull the pipe, a show of oil was found at the bottom. It was decided to deepen it and it is drilling at 1,400 feet with oil and water showing. Black Hills Petroleum Co.'s No. 1, NW, Section 34-6s-2e, the discovery well, which was completed at 1,344 feet early in 1930 in the Minnelusa, or basal Pennsylvanian, is pumping 5 to 6 bbls. per day, the oil being used for fuel purposes.

Pipe Line Runs

Average daily pipe line runs for the week ended October 31:

	Bbls.
WYOMING	
Salt Creek	22,880
Big Muddy	1,760
Cody	10
Dallas-Derby	920
Dutton Creek	80
Elk Basin	660
Ferris	30
Frannie	320
Grass Creek	2,050
Hamilton Dome	950
Hudson	160
LaBarge	940
Lance Creek	240
Lost Soldier	3,960
Oregon Basin	780
Osage	1,180
Pilot Butte	40
Rock River	1,780
Poison Spider	80
Teapot	20
Total Wyoming	38,840
MONTANA	
Buckley-Border	560
Cat Creek	830
Dry Creek	290
Kevin Sunburst	4,660
Lake Basin	70
Pondera	1,600
Total Montana	8,060
COLORADO	
Florence	380
Fort Collins	930
Iles	990
Moffat	810
Orchard	560
Rangely	20
Tow Creek	290
Total Colorado	4,280
NEW MEXICO	
Rattlesnake	751
Hogback	470
Table Mesa	81
Artesia	500
Cap Rock	896
Hobbs	36,090
Jal	1,104
Lea City	2,310
Eunice	485
Total New Mexico	42,687
Total Rocky Mountain area	93,867
Total previous week	94,633
Difference	816

COMMUNITY LEASE OFFERS METHOD OF DEVELOPMENT

(Continued from Page 17)

ity usually ends for all time the man's prospect of further rental or royalty. But if the land is a unit in a community block, he will get his share of any production found in that block, whether the productive wells are on his own land or on his neighbors. Further, he will have free gas for his residence if gas is found. Since the drill alone can tell the place on the block where the gas or oil exists, the landowners under the community form, share their risk with each other and share also the one-eighth royalty in all the gas or oil wherever it may be found, perhaps after several test wells have been completed, following up showings indicated in the first wells drilled.

A single and costly orifice measures the gas delivery from each community block which is in contrast to many mechanical meters which would have to be used in measuring the gas from each individual farm under the standard form of lease. The single orifice meter can be checked readily and maintained in perfect condition. Since it has no gears or movable parts it is not subject to change so that it measures accurately all of the gas, even in the coldest weather when the pull is heavy. Further, the stringing of the collecting pipe lines over the lands is simplified and reduced, which spares the land and saves operative investment.

A single royalty check is mailed every three months to the bank as agent, together with a list of the amount of money due each landowner, which amount is proportional to his acreage in the block. Each leaser draws his share of the money.

WILDCAT OPERATIONS IN TEXAS PANHANDLE

(Continued from Page 27)

Magnolia Pet. Co.'s No. 1 Arnold, 330 ft. from S and E, Sec. 149, Blk. 3, I.&G.N. Sur. ..... Cellar.
Magnolia Pet. Co.'s No. 1 Heaston, NE cor. S½ NE, Sec. 164, Blk. 3, I.&G.N. Sur. ..... Drlg. 2,026 ft.
Nelson et al's No. 1 Crews, 330 ft. S and E, NW, Sec. 12, Blk. 25, H.&G.N. Sur. ..... S.D. 2,619 ft.
Nipper et al's No. 1 Morse, 330 ft. from N and E, Sec. 1, Blk. 26, I.&G.N. Sur. ..... Drlg. 1,550 ft.
Prairie Oil & Gas Co.'s No. 1 Morse, 330 ft. from N and E of Sec. 4, Blk. 26, H.&G.N. Sur. ..... Location.
Pulse-Shell Pet. Corp.'s No. 1 Wright, 330 ft. from S and W of Sec. 12, Blk. 3, I.&G.N. Sur. ..... Drlg. 2,215 ft; show gas 2,013 and 2,039 ft.
Skelly Oil Co.'s No. 2 Heaston, 330 ft. from S and E N half NE, Sec. 164, Blk. 3, I.&G.N. Sur. ..... Standardizing 1,160 ft.
Saunders et al's No. 2 Sullivan, 822 ft. from W and 231 ft. from NE, 160 ft. S, 264 ac. of N½, Sec. 136, Blk. 3, I.&G.N. Sur. ..... Will plug back to 3,275 ft. and shoot.
Sullivan & Ochiltree's No. 1-A Morse, 330 ft. S and W, N½ NE, Sec. 15, Blk. A-9 H.&G.N. Sur. ..... Rig up and S.D.
Tarber's No. 1 Saunders, 330 ft. N and W, Sec. 3, Blk. 1, B.B.&S.F. Sur. ..... Location.
Quicksand Oil Co.'s No. 1 Chapman, 250 ft. from N and E, Sec. 69, Blk. 25, H.&G.N. Sur. ..... Spudded.
Vulcan Corp.'s No. 1 Carpenter, 330 ft. from S and E, Sec. 25, Blk. 25, H.&G.N. Sur. ..... S.D. for Csg. 1,500 ft.

HUTCHINSON COUNTY

Danciger O. & R. Co.'s No. 1 Johnson, 330 ft. N and W, SE. Sec. 34, Blk. Y, A.&B. Sur. ..... Spudded and S.D.
Deal O. & G. Co.'s No. 2 Sanford, 330 ft. N and E of N 80 ac., S 160 ac., Sec. 31, Blk. 46, H.&T.C. Sur. .... S.D. 450 ft.
Huber Prod. Co.'s No. 1 Johnson Bros. (Premier), 330 ft. N and E of W 60 ac., N 80 ac., NW, Sec. 3, Blk. Y, A.&B. Sur. ..... S.D. 3,016 ft.
Smith & McDaniel et al's No. 4 Pitcher, 990 ft. from S and 330 ft. from W, Sec. 19, Blk. M-21. Sur. ..... Location.
Smith & Daniels' No. 3 Pitcher, 990 ft. from S and 330 ft. from E, Sec. 19, Blk. M-21, T.C.R.R. Sur. ..... Standardizing 3,002 ft.
Skelly Oil Co.'s No. 1 Johnson Bros., 660 ft. S and W, SE. Sec. 30, Blk. Y, A.&B. Sur. ..... S.D. 3,115 ft.
Timms-Deatch's No. 4 Moore, 330 ft. N and W, Sec. 124, Blk. 4, I.&G.N. Sur. ..... Rig.

LIPSCOMB COUNTY

Okla. Public Service Co.'s No. 1 C. W. Jones, NE SW, Sec. 100, H.&T.C. Sur. ..... T.D. 5,003 ft.

LUBBOCK COUNTY

Center Oil Co.'s No. 1 Bowles Ranch ..... Small S.O. 1,133-40 ft; S.D. 4,167 ft.

MOORE COUNTY

Gulf Prod. Co.'s No. 1 Burnett, 330 ft. from N and W, Sec. 356, Blk. 44, H.&T.C. Sur. ..... Drlg. 2,315 ft.
Interstate's No. 1 Nield, C NE, Sec. 18, Blk. 44, H.&T. C. Sur. ..... Location.
Pollard et al's No. 1 Hall, 330 ft. S and E, NE, Sec. 131, Blk. 3-T, T.&N.O. Sur. ..... Rig on ground.
Sunray Oil Co.'s No. 2 Jones, 330 ft. N and W, W½ SW, Sec. 164, Blk. 3-T, T.&N.O. Sur. ..... Rig on ground.
Texas Interstate P. L. Co.'s No. 1-23 Thompson, C N½ NE, Sec. 23, Blk. 44, H.&T.C. Sur. ..... Location.
Texas Interstate P. L. Co.'s No. 1-37 Sneed, C NW, Sec. 37, Blk. 6-T, T.&N.O. Sur. ..... Location.
Texas Interstate P. L. Co.'s No. 1 Coon, 2,025 ft. from N and 2,640 ft. from W, Sec. 149, Blk. 44, H.&T.C. Sur. ..... Drlg. 2,635 ft., Standardizing.
Texhoma Natural Gas Co.'s No. 2 Coon, center of Sec., Sec. 151, Blk. 44. Sur. ..... Material.
Texhoma Nat. Gas Co.'s No. 1 Coon-Sneed, center Sec. 8, Blk. 6-T, T.&N.O. Sur. ..... Drlg. 2,510 ft.

MOTLEY COUNTY

Matador Oil Corp.'s No. 1 Owens, C NE, Sec. 10, Blk. G, B.&B. Sur. ..... S.D. 530 ft.

OLDHAM COUNTY

Amalgamated German-American Oil Corp.'s No. 1 Norton, 330 ft. S and E, Sec. 12, T.&N.O. Sur. ..... S.D. 400 ft.
Chambers et al's No. 1 Herring, CNL, Sec. 20, Blk. S, G.C.&S.F. Sur. ..... S.D. 2,945 ft.

PARMER COUNTY

Magnolia Pet. Co.'s No. 1 Wilson, 330 ft. from N and W of SE, Sec. 73, H. Kelly Sur. ..... Rig.

ROBERTS COUNTY

Chicken Creek Oil Co.'s No. 1 Ledrick, 330 ft. N and W, Sec. 55, Blk. C, G.&M. Sur. ..... Drlg. 1,825 ft.
Travis et al's No. 1 Cunningham, 330 ft. S and W, Sec. 74, Blk. M-2, H.&G.N. Sur. ..... S.D. 2,690 ft.

WHEELER COUNTY

Clarity et al's No. 1 Porter, 330 ft. S and W, SE, Sec. 2, Blk. A-9, H.&G.N. Sur. ..... S.D. for 6-in. csg. 2,150 ft.

WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 27)

EL PASO COUNTY

Tri-State Oil Co.'s No. 1 Bobadella, 1,325 ft. from S and E lines Sur. 254, S.F. No. 7,247 ..... Shut down 1,725 ft.

FISHER COUNTY

The Texas Company's No. 1 Daniels, 357 ft. from S and 330 ft. from W lines of Sec. 194, Blk. 1, B.B.&C. Sur. ..... Shut down 3,085 ft.; drilling in.
Cranfill & Reynolds' No. 1 George, 400 ft. from N and 380 ft. from E, Sec. 200, Blk. 1, B.B.&C. Sur. ..... Drlg. 3,310 ft.
Cranfill & Reynolds' No. 1 Snipe, 330 ft. from N and W lines of Sec. 196, Blk. 1, B.B.&C. Sur. ..... Machine.

GAINES COUNTY

Texas Consolidated Oil Co. et al's No. 1 Jones, 2,312 ft. from NE, Sec. 4, Blk. A-8, P.S.L. Sur. ..... T.D. 4,700 ft.

GARZA COUNTY

Pandem Oil Corp.'s No. 1 Justice, 330 ft. from S and W of Sec. 12, Blk. 4, H.&G.N. Sur. ..... Spudded and S.D.
Penny & Posey's No. 1 Justice, 1,980 ft. from S and 1,650 ft. from E of Sec. 25, Blk. 6, H.&G.N. Sur. (3,500-ft. cable tool test) ..... T.D. 3,202 ft.

HOWARD COUNTY

Green O. & R. Co.'s No. 1 Denman, 990 ft. from S and 2,310 ft. from W Sec. 14, Blk. 20, Twp. 1s, T.&P. Sur. Spudded and S.D.
Merrick & Lamb's No. 2 Chalk, 990 ft. from the N and W lines of Sec. 125, Blk. 29, W.&M.W.R.R. Sur. .... Drlg. 2,625 ft.

IRION COUNTY

Davis et al's No. 1 Suggs, 1,560 ft. from S and 925 ft. from W Sec. 3,081, Blk. 28, H.&T.C. Sur. ..... Shut down 4,310 ft.
Denny & Andrews' No. 1-A Tankersley, 200 ft. from S and 2,000 ft. from E of Sec. 709, J. P. Imhoff Sur. ... S.D. 463 ft.
Ellis Flanery Corp.'s No. 1 Nutt, 1,350 ft. from N and 450 ft. from E of Sec. 694, Kheikenholm Sur. ..... Drlg. 2,395 ft.
Stanolind Oil & Gas Co.'s No. 1 Williams, 1,320 ft. from S and E of Sec. 1,196, T.T.R.R. Sur. ..... S.D. 6,725 ft.
Straughn & Adkins Bros.' No. 1 Lee, 1,080 ft. from W and 420 ft. from N of Sec. 729, C. Kaiser Sur. ..... Shut down 975 ft.

JONES COUNTY

Abers et al's No. 1 Burton, 150 ft. from S and 175 ft. from E of 43.4-acre tract in G. Martinez Sur. ..... S.D. 1,005 ft.

JACK COUNTY

J. M. Seaberry's No. 1 E. J. Showers, 150 ft. S, 150 ft. E NW cor. SE, Sec. 40, Henderson County School Land Sur, Blk. 1-A 257 ..... Location.

LOVING COUNTY

Ervin & Mahres' No. 1 Thrope, 2,310 ft. from E and 330 ft. from S Sec. 46, Blk. 53, T.&P. Sur. ..... S.D. 810 ft.
Slack's No. 1 Lynd, 990 ft. NE and 330 ft. SE of Sec. 3, Blk. 2, W.&N.W. Sur. ..... Shut down 3,000 ft.
Falbre & Evans' No. 1 Dean, 330 ft. from NE and 990 ft. from NW Sec. 79, Blk. 33, H.&T.C. Sur. ..... S.D. 2,500 ft.
Lewis & Slagel's No. 1 Johnson, 330 ft. from N and 1,650 ft. from W Sec. 6, Blk. 56, Twp. 1, T.&P. Sur... Spudded and S.D.
Lockhart & Co.'s No. 3 Bowen & Wells, 330 ft. from NE and SE of Sec. 92, Blk. 1, W.&N.W. Sur. ..... S.D. 3,385 ft.
Tennant et al's No. 1 Martin, 990 ft. from NW and SW Sec. 66, Blk. 1, W.&N.W. Sur. ..... Drlg. 2,010 ft.

MENARD COUNTY

Priest's No. 1 Sorrel, 1,000 ft. from E and 200 ft. from S cor. Sec. 132, E.L.R.R. Sur. ..... S.D. 2,860 ft.

PECOS COUNTY

Dittman's No. 1 Sanford, 330 ft. from NW and 1,650 ft. from NE of Sec. 55, Blk. 10, H.&G.N. Sur. ..... T.D. 1,300 ft.
Slaughter et al's No. 1 Sun Yates, 60 ft. S of Sun Oil Co.'s No. 1 Yates, Sec. 59, Blk. 1, I.&G.N. Sur. ..... Material.

REAGAN COUNTY

Carl Cromwell et al's No. 1 University, 1,320 ft. from S line and 1,320 ft. from E line of Sec. 4, University Blk. 7 ..... Spudded 55 ft.
Big Lake Oil Co.'s No. 6-C University, 1,370 ft. from S and 1,000 ft. from E Sec. 12, Blk. 2 ..... Drlg. 2,825 ft.

REEVES COUNTY

Cunningham et al's No. 1 Wright, 1,320 ft. from S and W Sec. 58, Cassel's Sur. ..... Spudded and S.D.
F. McDorman et al's No. 1 Ray Roberts et al, 2,310 ft. from S and E lines of Sec. 22, Blk. 59, P.S.L. Sur.... Spudded.
James & Milton's No. 1 Patterson, 330 ft. from N and W of Sec. 21, Blk. 72 ..... Testing wtr. shutoff 3,330 ft.
Lee O. White et al's No. 1 Hershersor, 330 ft. from N and W lines of Sec. 5, Blk. 51, Twp. 10, T.&P. Sur... S.D. 5,044 ft.

RUNNELS COUNTY

Dutton et al's No. 1 Dean, 5,475 ft. from NE and 1,048 ft. from NW in J. Heil Sur. No. 519 ..... S.D. 2,700 ft.

SCHLEICHER COUNTY

Eastland Oil Co.'s No. 1 Joe Tisdale, C Sec. 29, Blk. M, G.H.&S.A. Sur. ..... S.D. 4,500 ft; contract depth.
Wesner et al's No. 1 Nicks, 2,310 ft. from N and 2,362 ft. from E of Sec. 77, Blk. LL, T.C. Sur. ..... S.D. 5,057 ft.
George Wilson's No. 1 Page, Sec. 40, Blk. L, 1,290 ft. from N, 1,570 ft. from W, G.H.&S.A. Sur. ..... S.D. 5,053 ft.

SCURRY COUNTY

G. E. Dickman and R. B. Pender et al's No. 1 F. C. Davis, 1,000 ft. N and 1,770 ft. W of SE cor. of Sec. 275, Blk. 2, H.&T.C. Sur. ..... S.D. 5,100 ft.
Scurry County Oil Exchange's No. 1 Earnest, 2,310 ft. from N and W Sec. 68, Blk. 3, H.&G.N. Sur. ..... Spudded and S.D.
Seifert & Dibble's No. 1 T. M. Blackburn, 2,310 ft. from N and 2,310 ft. from W line of Sec. 153, Blk. 97, H.&T.C. Sur. ..... S.D. 3,500 ft.
Simon & Brock et al's No. 1 Cruse, 2,310 ft. from S and E Sec. 119, Blk. 97, H.&T.C. Sur. ..... S.O. 1,798, 1,820, 1,850 ft; S.D. 2,500 ft.

TERRELL COUNTY

Big Bend Oil Co.'s No. 1 Bassett, C NW Sec. 155, Blk. D, M-K-T Sur. ..... S.D. 2,669 ft.
Keck Pecos Trust Co.'s No. 1 Hamilton, C Sec. 6, Georgetown Ry. Sur. ..... S.D. 3,150 ft.
Miller Bros.' No. 1 Allison & Burke, C NW cor. Sec. 10, Blk. 176, T.&P. Sur. ..... S.D. 120 ft.
Mid-Kansas Oil & Gas Co.'s No. 1 Goode, 2,152 ft. from E and 330 ft. from S Sec. 26, Blk. 161, G.C.&S.F. Sur. S.D. 6,120 ft.
Jones et al's No. 1 Pankenham, C SE NW Sec. 43, Blk. B-2, C.C.S.D.&R.G.N.G. Sur. ..... S.D. 2,545 ft.
Sides et al's No. 1 Phelps, 2,157 ft. from N and 2,482 ft. from W Sec. 5, G. W. Turley Sur. ..... Location.

TOM GREEN COUNTY

Belding & Dutton's No. 1 Norsworthy, 1,640 ft. from S and 587 ft. from E of John McNeese Sur. ..... S.D. 760 ft; S.O. and gas 725 ft.
Mintex Oil Co.'s No. 1 Campbell Est., 446 ft. from S and 630 ft. from W of Sec. 180, Dist. No. 11, S.P. Sur.... S.D. 1,994 ft.
Pratt & Hancock's No. 2 Lewis, 100 ft. N and 330 ft. E of most northerly SW cor. of Joshua S. Grant Sur. No. 2 ..... S.D. 200 ft.

UPTON COUNTY

Farley et al's No. 1 Lane, 2,310 ft. from S and 990 ft. from W Sec. 36, Blk. 1, M.-K.-T. Sur. ..... Shut down 1,350 ft.
T. P. Coal & Oil Co.'s No. 2 Shirk, 1,650 ft. from S and 330 ft. from E of Sec. 1, Blk. 3, M.-K.-T. Sur. ..... Spudding.

VAL VERDE COUNTY

Independent Operators' No. 1 Whitehead, SE SE Sec. 10, Blk. 4, I.&G.N. Sur., elev. 1,175 ft. ..... S.D. 5,360 ft.
O. O. Owens' No. 1 Mills, Sec. 128, Blk. 1, I.&G.N. Sur., elev. 2,130 ft. ..... S.D. 6,780 ft.

WARD COUNTY

Abell Bros.' No. 1 Sloan, 330 ft. from NW and NE Sec. 24, Blk. 5, H.&T.C. Sur. ..... Location.
Boogher's No. 1 fee, 235 ft. from SE and 3,553 ft. from NE Sec. 11, Blk. 5, H.&T.C. Sur. ..... S.D. 2,111 ft.
Bradford-Bentley's No. 1 Beatty, 330 ft. from SW and NW of Sec. 3, Blk. 34, H.&T.C. Sur. ..... Drlg. 305 ft.
Central Oil & Gas Co.'s No. 1 Barrow, 330 ft. from NW and 1,263 ft. from SW Sec. 55, J. W. Jackson Sur. ..... Top pay 2,409 ft.; T.D. 2,448 ft.; 40 bbls. per day.
Eppenauer's No. 1 Purcell, 365 ft. from SW and 1,650 ft. from SE of Sec. 17, Blk. 34, H.&T.C. Sur. ..... Location.
H. V. Greer's No. 1 Carr, 150 ft. from NW and 510 ft. from SW Sec. 12, Blk. 5, H.&T.C. Sur. ..... Spudded and S.D.
Hankinson et al's No. 1 Emery, 3,090 ft. from SE and 510 ft. from SW Sec. 26, Blk. 5, H.&T.C. Sur. ..... S.D. 2,238 ft.
Moran & Miles' No. 1 Boogher, 3,603 ft. from NE and 1,303 ft. from SE Sec. 11, Blk. 5, H.&T.C. Sur. ..... S.D. 715 ft.
R. F. Owen's No. 1 Lee, 1,344 ft. from NW and 4,533 ft. from SW Sec. 1, J. Howe Sur. ..... S.D. 175 ft.
Prairie Oil & Gas Co.'s No. 1 Edmonson, 330 ft. from NW and 2,310 ft. from SW of Sec. 23, Blk. 5, H.& T.C. Sur. ..... Drlg. 2,040 ft.; gas show 1,795 ft.
Prairie Oil & Gas Co.'s No. 2 Edmonson, 330 ft. from NW and SW of Sec. 23, Blk. 5, H.&T.C. Sur. ..... Location.
Rector Oil Co.'s No. 1 Smith, 1,320 ft. from N and E, Sec. 22, Blk. A, G.M.M.B.&A. Sur. ..... S.D. 3,602 ft.
Paul Ryan et al's No. 1 J. S. Reynolds, 4,110 ft. from NE line and 150 ft. from NW line, Sec. 12, Blk. 5, H.&T.C. Sur. ..... S.D. 2,040 ft.
Sudderth & Carey's No. 1 J. H. Boogher et al, 150 ft. from SW and SE lines of Lot 24, Sec. 11, Blk. 5, H.&T.C. Sur. ..... Rigging up.
Stanolind Oil & Gas Co.'s No. 1 Brown, 330 ft. from NW and SW Sec. 26, Blk. B-29 ..... Fishing 2,235 ft.; 5,000,000 ft. gas 2,233-35 ft.
Shipley et al's No. 1 Monroe, 330 ft. SE SW Sec. 3, Blk. 1 ..... Drlg. 4,560 ft.

White et al's No. 1 Burtner, 150 ft. from NE and 515 ft. from SE of Sec. 8, Blk. 32, H.&T.C. Sur. ....S.D. 755 ft.

WICHITA COUNTY

W. R. Fullerton's No. 1 Foster and Allen, 680 ft. S, 450 ft. E NW cor. E 100 of W 200, S 250, Sec. 1, H.T.&B. Sur. ....Location.

WILBARGER COUNTY

John O'Neil's No. 1 Yarbrough, 150 ft. S, 150 ft. E NW cor., Sec. 29, H.&T.C. Sur., Blk. 5 ....Location.

WINKLER COUNTY

Liner Drlg. Co.'s No. 1 Campbell, 350 ft. from N and E cor. Sec. 2, Blk. B-5 ....S.D. 4,640 ft.

Richardson's No. 1 Sealy, 330 ft. from S and W of Sec. 92, Blk. A, G.M.M.B.&A. Sur. ....Location.

YOUNG COUNTY

Producers Supply & Tool Co.'s No. 8 W. T. Finch, 450 ft. N, 1,084 ft. W of cor. Subd. 31, T.E.&L. Sur. ....Location.

Producers Supply & Tool Co.'s No. 9 W. T. Finch, 150 ft. S, 1,084 ft. W NE cor., Sec. 31, T.E.&L. Sur. ....Location.

Dwight M. Ross' No. 1 A. M. Graham, 1,470 ft. E, 150 ft. N SW cor., Sec. 276, T.E.&L. Sur. ....Spudding.

H. Sharp's No. 1 A. J. Cantwell, 150 ft. N, 150 ft. E SW cor. of S 40-ac. of E 80 of W 160, Sec. 630, T.E.&L. Sur. ....Location.

R. Seitz's No. 5 W. T. Finch, 150 ft. S, 150 ft. E NW cor. of his lease in Sec. 31, T.E.&L. Sur. ....Location.

EAST CENTRAL TEXAS WILDCATS

(Continued from Page 25)

FRANKLIN COUNTY

Tom Harper's No. 1 fee, 150 ft. from N line and 200 ft. from E line of 116-ac. tract, W. M. Dawson Sur. ....Derrick.

FREESTONE COUNTY

Raley and Clark's No. 1 McLancaster (Pampier), 150 ft. from E of W line and center of N and S line B. Avant Sur. ....Derrick.

GREGG COUNTY

Atlantic Oil & Prod. Co.'s No. 1 Turner estate, 893 ft. from N line and 1,857 ft. from E line of lease and survey, W. C. Wakeland Sur. ....Location.

Alma Petroleum Co.'s No. 1 J. B. Watson, 330 ft. from S line and 330 ft. from E line of 35-ac. tract, Thompson Allen Sur. ....Spudded.

Angeles and Daniel's No. 1 J. C. Clarborne, 335 ft. from N line and 164 ft. from E line of NW cor. of Clarborne 50-ac. tract in the L. Baty Sur. ....Drlg. 3,689 ft.

Artic Petroleum Co.'s No. 1 King, 57 ft. S of most northerly NW cor. and 104 ft. E at right angles in 2-in. tract, Chisum Sur. ....Shut down 3,018 ft.

Atlantic and Pacific's No. 1 O. R. Johnson, 340 ft. from S line and 390 ft. from W line of survey, L. J. Rigsby Sur. ....Set 10-in. csg. 888 ft.

Barnsdall Oil Co.'s No. 1 G. E. Adams, 1,150 ft. from S and 3,720 ft. from W of G. W. Hooper Sur. ....T.D. 3,525 ft; waiting on cmt. to set.

Bishop Oil Corp.'s No. 1 Richie, N offset to Shasta Oil Co.'s No. 1, Carl Rhodes Sur. ....Drlg. 2,905 ft.

Brannon et al's No. 1 W. A. Horton, center of 2-ac. lease, John Ruddle Sur. ....Fishing 3,518 ft.

Buchanan et al's No. 1 George Ritchie, 120 ft. N and 15 ft. W of Monsell and Currie's No. 1 Church Block No. 4, M. Dillard Sur. ....Derrick.

Bramlette's No. 1 Goforth, 170 ft. due N of NW cor. of Sun-Hilburn-Lloyd lease in Chisum Sur. ....Rig up and S.D.

Bob et al's No. 1 T. L. Broy, 290 ft. from E and 1,640 ft. from S of H. A. Holdt Sur. ....Derrick.

M. T. Beeler's No. 1 Finley and Thomas, 150 ft. from N and 150 ft. from W of 10-ac. lease, C. H. Alexander Sur. ....Derrick.

Branson et al's No. 1 J. J. Fuller, 1,050 ft. from N and 170 ft. from W of survey, M. Alexander Sur. ....Derrick.

T. J. Connor's No. 1 Forshee estate, 150 ft. from N line and 150 ft. from W line of lease, H. R. Hokit Sur. ....Running csg. 3,639 ft.

Cox and Hammon's No. 1 L. E. Lacy, 330 ft. from E line and 100 ft. N of railroad, J. Ruddle Sur. ....Testing; total depth 3,545 ft.

Campbell and Lee's No. 1 A. Johnson, 170 ft. from N line and 134 ft. from E line of 11-ac. lease in the M. Dillard Sur. ....Set 10-in. csg. 886 ft.

Columbia Oil & Gas Co.'s No. 1-A Harley, 650 ft. E and 300 ft. S of SE cor. of Laura Walker 45-ac. tract, William Robinson Sur. ....Derrick.

C. R. Starnes' No. 1 G. C. Dunaway, center of Blk. 5, 115 ft. S, 475 ft. W SE cor. H. R. Hokit Sur. ....Location.

D. L. Hoffman's No. 1 Bumpass, 360 ft. from S line and 260 ft. from W line of 10-ac. lease, W. H. Castleberry Sur. ....Location.

Empire Gas & Fuel Co.'s No. 1 J. T. Jeter, 317 ft. from S line and 150 ft. from E line of D. B. Choate Sur. ....Drlg. 2,671 ft.

E. E. Fogleson's No. 1 J. B. Doley, 150 ft. from S line and 460 ft. from W line of tract, W. M. Castleberry Sur. ....Derrick.

Harper Petroleum Corp.'s No. 1 Woodley Jones, 2,000 ft. from N line and 3,900 ft. from E line of William H. Castleberry Sur. ....Derrick.

Humble Oil & Refining Co.'s No. 1 H. M. Lawrence, 540 ft. from N and 219 ft. from W of 100-ac. tract, David Ferguson Sur. ....Derrick.

Johnston's No. 1 Williams, 125 ft. from N and W of 3-ac. tract, Van Winkle Sur. ....Derrick.

K. B. Oil Co.'s No. 1 Dickson, 150 ft. from S and 150 ft. from W of 5-ac. lease, Mary Van Winkle Sur. ....S.D. 700 ft.

Kiltner and Easterling's No. 1 Missie Young, 230 ft. S and 250 ft. E of SW cor. of the H. Edwards Sur. in the C. Rhodes Sur. ....Set 6⅝-in. csg. 3,540 ft.

Magnolia Pet. Co.'s No. 1 Everett, 252 ft. from S line and 734 ft. from W line of lease, L. J. Rigsby Sur. ....Set 10-in. csg. 70 ft.

O'Neil and Wallace's No. 1 E. L. Walker, 330 ft. N of S line of lease and 330 ft. SW of center of river on 20-ac. lease, John Tate Sur. ....Drlg. 1,200 ft.

Prairie Oil & Gas Co.'s No. 1 Thomas, 330 ft. from N line and 375 ft. from E line of lease, J. M. Norris Sur. ....Spud 700 ft.

Prairie Oil & Gas Co.'s No. 1 W. H. York, 620 ft. from W line and 1,900 ft. from S line of survey, M. Dillard Sur. ....Drlg. 2,630 ft.

Ross et al's No. 1, located on Findley & Thomas 50-ac. tract, 150 ft. from S line of 6.66-ac. lease, C. H. Alexander Sur. ....Derrick.

Alco Royalty Consl. Pet. Corp.'s No. 1 King, center of 10-ac. lease out of NW cor. of Shell's 176-ac. tract, Geo. A. Thompson Sur. ....Set 6⅝-in. csg. 3,529 ft.

Simplex Oil Co.'s No. 1 J. E. Lawther, 330 ft. from S line and 330 ft. from W line of 36.5-ac. lease, John Moffitt Sur. ....Rigging up.

Stanolind Oil & Gas Co.'s No. 1 Nancy Redford, 473 ft. from S line and 462 ft. from W line of 19-ac. tract, John Blair Sur. ....Drlg. 2,525 ft.

Stanolind Oil & Gas Co.'s No. 1 Beulah Jones, 330 ft. S line and 378 ft. from E line of 100-ac. tract, G. W. Hooper Sur. ....Set 6⅝-in. csg. 3,629 ft.

Shell Pet. Corp.'s No. 1 A. A. King, 345 ft. from N line, 550 ft. from E line of lease, Geo. A. Thompson Sur. ....Location.

Sun Oil Co.'s No. 1 Calvin Brown, 330 ft. from most southerly S line and middle of E and W lines of lease, L. B. Outlaw Sur. ....Derrick.

Tom C. Patten's No. 1 George Walter, center of 1-ac. tract and 396 ft. from W line of lease, Mary Van Winkle Sur. ....Location.

Tidal Oil Co.'s No. 1 Lake Diversia Fish and Game Club, 300 ft. from N and 550 ft. from W lines of tract in William G. Painter Sur. ....Rig up and S.D.

Valentine Oil Co.'s No. 1 Goyne-Hughey, 6,100 ft. from S and 6,300 ft. from W of survey, Mary Van Winkle Sur. ....Rigging up.

Shasta Oil Co.'s No. 1 L. D. Campbell, 540 ft. from N and 219 ft. from E of 72½-ac. tract, David Ferguson Sur. ....Derrick.

HENDERSON COUNTY

Seven Wells Corp.'s No. 1 Douglas, 767 ft. from N and 823 ft. from E of tract in K. H. Douglas Sur. ....Drlg. 3,268 ft.

HOPKINS COUNTY

Roark et al's No. 1 Taylor, 220 ft. from N and W lines of 80-ac. tract in the John Polk Sur. ....S.D. 540 ft.

HOUSTON COUNTY

Apex Drlg. Co.'s No. 1 Thompson Bros., 250 ft. out of NW cor. of 200-ac. tract in John Shears Sur. ....Fishing for drill stem.

Ramsland and Ramsland's No. 1 Pennington, 750 varas W of E line and 500 varas from S line of survey on 186-ac. tract, Ramond LaGarza Sur. ....S.D. 1,653 ft.

Phillips and Phillips' No. 1 Kennedy Bros., 485 varas out of SW cor. of 100-ac. tract, Jose M. Procella Sur. ....Rigged up and S.D.

Snow's No. 1 Harron, 300 ft. out of NE cor. of 327 ac. tract, J. P. Procella Sur. ....Spudded and S.D. 37 ft.

HUNT COUNTY

Branson et al's No. 1 Gray ....Location.

Foster and Earl's No. 1 Whitney and Clark, 150 ft. out of NW cor. of 50-ac. tract in W. H. Landrum Sur. ....S.D. 350 ft.

M. S. Hammond's No. 1 W. H. Adams ....Location.

M. S. Hammond's No. 1 R. L. Gray ....Derrick.

Russell et al's No. 1 Brooks and Quattlebaum ....S.D. 1,455 ft.

LAMAR COUNTY

Indian States Oil Co.'s No. 1 W. T. Watson in Ignalius Aud Sur. ....S.D. 4,026 ft.

Puritan's No. 1 George Parr, 2,000 ft. from W of Frisco Railway and 1,000 ft. from E line of R. Russell Sur. ....Rigging up.

LEON COUNTY

Cooper et al's No. 1 Lynch, 4,000 ft. from W line and 250 ft. N from the S line of Thomas H. Gardner Sur., and in 200-ac. tract ....Preparing to start up; T.D. 1,931 ft.

Sun Oil Co.'s No. 2 Grayson ....Drlg. 4,693 ft.

MORRIS COUNTY

Dumas et al's No. 1 Tom Ball, 1,046 ft. from E and 248 ft. from S of 71-ac. tract, A. S. Young heirs Sur. ....Derrick.

NACOGDOCHES COUNTY

Bunte et al's No. 1 A. F. Boatman, 330 ft. from S and 150 ft. from W of 67-ac. tract, William A. Moore Sur. ....S.D. 1,605 ft.

Churchill-Armstrong's No. 1 Max W. Hart, 2,640 ft. from N line and 2,640 ft. from S of N line of survey, George Pollett Sur. ....Derrick.

Foreman and Weller's No. 1 Norris, 60 ft. NW of E line and 420 ft. S of road in 73.5-ac. tract, Hossea Y. Barbo Sur. ....Derrick.

Gainer et al's No. 1 Nice Well, 18 miles SE of Nacogdoches, 600 ft. from S and 150 ft. from W of Wells tract in A. Cherino Sur. ....Shut down 3,430 ft.

Joiner and Henson's No. 1 Andy Legg, 330 ft. from N and 330 ft. from W of tract, John Durst Sur. ....S.D. 3,920 ft.

Scully & Harwell's No. 1 R. I. Driver, 1,500 ft. from SE cor. of P. B. Ballard 125-ac. tract, 15 miles SE of Nacogdoches in Patricia De Torres Sur. ....Drlg. 2,979 ft.

Taylor-Vaughn's No. 1 Dixon Greer, 160 ft. from W and 450 ft. from N lines of 60-ac. tract in the M. G. Horrera Sur. ....Shut down 265 ft.

Big Indian Oil Co.'s No. 1 J. N. Stewart, center of 79-ac. tract in the Jose Ignacio Ybarbo Sur. ....S.D. 2,335 ft.

RAINS COUNTY

Berry and Hale's No. 1 Ownsby, 150 ft. N and 1,100 ft. from E of most easterly SE cor. of survey, Alexander Sur. ....Washing to bottom 209 ft.

RED RIVER COUNTY

Doyle and Jondreau's No. 1 V. S. Griffin, 700 ft. from N line and 650 ft. E of W line of survey, J. C. Brown Sur. ....Slush pit.

Droppleman and Bundy's No. 1 J. W. Cunningham, 250 ft. from the S and 1,066 ft. from the E lines of B. M. Ballard Sur. ....Rig up.

Harris & Joiner's No. 1 E. Howison, 225 ft. S, 185 ft. W of 79-ac. tract, William Humphreys Sur. ....Shut down 1,940 ft.

Concord Oil Co.'s No. 1 J. R. Deliahunty, 500 ft. from N of Isaac Moore Sur. and 200 ft. E of E line of Robert Glass Sur. ....Shut down 978 ft.

ROCKWALL COUNTY

Bucanner Oil Co.'s No. 1 H. L. Lofland, center of 69-ac. tract in W. M. Bird Sur. ....Set 10-in. csg. 120 ft.

RUSK COUNTY

Barney Cockburn's No. 1 Nathan Green, 330 ft. from S and E line of lease, M. Husner Sur. ....Location.

Chapman's No. 1 W. M. Futch, 330 ft. from N line and 500 ft. from E line of survey and lease, Jos English Sur. ....Rigging up.

Griffith Bros.' No. 1 S. E. Brox, 330 ft. from N and W lines of 30-ac. tract, Thomas Grace Sur. ....Location.

Humble Oil & Ref. Co.'s No. 1 Ben Peterson, 463 ft. from N line, 330 ft. from W line of N line and 330 ft. from W line of 50-ac. lease, J. Lewis Sur. ....Location.

Noel Rushing et al's No. 1 Geo. Thompson, 700 ft. from N line and 600 ft. from W line of lease and survey. ....Location.

Weaver and Crim's No. 1 Bean, 330 ft. from S line and midway between E and W lines of lease, H. Hobson Sur. ....Derrick.

Tex-Jersey Oil Corp.'s No. 1 G. W. Eaton, center of 1.54-ac. tract, F. Cordova Sur. ....Waiting on csg.

Carl G. Willie's No. 1 Joe Lee, old well being drilled deeper, 330 ft. from S and E line of 50-ac. tract, Geo. Berry Sur. ....Drlg. 3,805 ft.

KILGORE AREA—RUSK COUNTY

Harry Elliott's No. 1 Carroll, 175 ft. from N and 200 ft. from E of 7-ac. tract, W. R. Cooke Sur. ....Location.

Raitman's No. 1 W. P. Moore, 240 ft. from S and 330 ft. W of NW cor. of W. P. Moore 25-ac. lease, H. Wiggins Sur. ....Rigging up.

Gulf Production Co.'s No. 1 Hoxey Johnson, 1,100 ft. from N line and 325 ft. from E line of H. B. Dance Sur. ....Location.

JOINER POOL—RUSK COUNTY

Armstrong's No. 1 Alford, 151 ft. from S and 1,080 ft. from W of survey, T. J. Moore Sur. ....Derrick.

Astnon's No. 1 Alford, 230 ft. out of NE cor. of 11-ac. lease, H. H. Penny Sur. ....Drlg. 3,628 ft.

Golding and Murchison's No. 1 Griffin, 539 ft. from N line and 115 ft. from W line of lease, J. B. Cadena Sur. ....Drlg. 2,580 ft.

Jackson's No. 1 H. C. Minor, 210 ft. from N line and 330 ft. from E line and center of W and S lines of 27-ac. lease, William Killen Sur. ..... Drlg. 2,765 ft.
Mass and Tucker's No. 1 Matthews, 3,244 ft. from N, 4,356 ft. from E. Dalines Cartimas Sur. ..... Drlg. 3,350 ft.
Paulett et al's No. 1 Ed Sparks, 350 ft. from E, 150 ft. from S of survey, L. C. Riggs Sur. ..... S.D. 2,121 ft.
Oliphant et al's No. 1 W. Alford, 330 ft. from S line and 330 ft. from E line of 40-ac. lease ..... Prepare to swab 3,782 ft.
Pitts et al's No. 1 Freeman, 1,000 ft. N of S line and 1,000 ft. E of W line of 181-ac. tract, J. Watkins Sur. ..... Rig blew down.
Priest et al's No. 1 Mayfield, 155 ft. from N and W lines of 22-ac. lease in Daniel Clark Sur. .. .. Drlg. 2,860 ft.
Ramussen et al's No. 1 F. J. Cox, 330 ft. from S line and 330 ft. from W line of tract, R. H. Penny Sur. ..... Drlg. 300 ft.

SMITH COUNTY

Brookshire et al's No. 1 S. S. Cook, 200 ft. from S line and center of E and W lines of 10-ac. tract in Juan Vargus Sur. ..... Set 12½-in. csg. 145 ft.
Bunte et al's No. 1 Atkinson, 1,000 ft. from S line and 1,000 ft. from N line of 330-ac. tract, Calloway Dean Sur. ..... Derrick.
Cotton Belt Oil Co.'s No. 1 C. S. Jackson, 500 ft. from N and 500 ft. from W of 39.88-ac. tract, Henry Mickleborough Sur. ..... Fishing for drill stem; T.D. 4,095 ft.
C. B. Bunte's No. 1 A. S. Jarvis, 330 ft. from N and E lines of 85-ac. tract, Juan Vargus Sur. ..... Location.
Gracy and Cronn's No. 1 M. Thompson, 150 ft. from N line and center of E and W lines of 14-ac. lease, Isaac Moore Sur. ..... Location.
H. M. Lemaster's No. 2 T. W. Wright, center of E 4 acres of an 8-ac. tract in the Juan Vargus Sur. ..... Derrick.
McCarty et al's No. 1 Cross, 200 ft. from E and S of 13-ac. tract, T. Burbridge Sur., ¾ mile SW Lindale Set 10-in. csg. 72 ft.
McCarty et al's No. 1 Taylor, 250 ft. from S and W of 73-ac. lease, F. M. Taylor Sur. ..... Set 10-in. csg. 32 ft; S.D.
Tytex Oil Co.'s No. 1 Alex Weldert, 2,030 ft. from S and 525 ft. from E lines of Franklin T. Bodenheimer Sur. ..... Derrick.
Wycliffe and Randall's No. 1 S. S. Cooke, center of 10-ac. lease, Juan Vargus Sur. ..... Rig up.

TITUS COUNTY

Perry V. Cook's No. 1 M. C. Rogers, center of SW of Moore Sur. ..... S.D. 2,603 ft.
Joiner et al's No. 1 Clayton Brown, 1,300 ft. from E and 400 ft. from most northerly S line of V. Evans Sur... S.D. 2,250 ft.
Venza Oil Co.'s No. 1 McGill, 450 ft. from S and 662 ft. from W of H. C. Riggs Sur. ..... Drlg. 6,523 ft.

UPSHUR COUNTY

Cal Petroleum Corp.'s No. 2 W. F. Glynn, 909 ft. from S line and center of E and W lines of tract, G. W. Hooper Sur. ..... Derrick.
Cal-Tex Corp.'s No. 1 Taylor, 250 ft. N and E of SE cor. of Hargrave lease, Marshall Mann Sur. ..... Set 6⅝-in. csg. 3,590 ft; waiting on cmt. to set.
Calhoun et al's No. 1 J. R. Penn, 265 ft. from S line and E line of Penn 104-ac. tract, Joseph Manning Sur. ..... S.D. 3,718 ft.
Cal Pet Corp.'s No. 1 W. H. Reed, 330 ft. from S and E line of 50-ac. lease, Marshall Mann Sur. ..... Location.
Cole and Butler's No. 1 D. F. Guest, 300 ft. out of NE cor. of Guest 129-ac. tract and survey ..... Derrick.
Cranfill & Reynolds' No. 1 Milton Rash, 1,687 ft. E of W line and 330 ft. N of S line of Rash estate, E. N. Eubanks Sur. ..... Topped Pecan Gap 2,418 ft.
Daisy Oil & Gas Co.'s No. 1 B. F. Phillips, 200 ft. out of SE cor. of 64-ac. tract, P. Whitestone Sur. ..... Swab 3,724 ft.
Eastland Oil Co.'s No. 1 O. M. Victory, 330 ft. from S line and 500 ft. from the W line of survey, E. A. J. Evans Sur. ..... Drlg. 3,585 ft.
Glasscock et al's No. 1 T. Wells, 250 ft. from N line of survey and 1,300 ft. from W line of farm on gin site tract, G. W. Hooper Sur. ..... Rigging up.
Moncrief Showers' No. 1 Collins, 90 ft. from N line and 90 ft. from W line of lease, G. W. Hooper Sur. .... Location.
Hinslow's No. 1 Taylor 330 ft. from E and S of 192-ac. tract in Gonzalez Sur. ..... Rigging up.
Humble Oil & Refining Co.'s No. 1 J. Phillips, 330 ft. from N line and 330 ft. from W line of lease, H. Edwards Sur. ..... Drlg. 3,247 ft.
Humble Oil & Refining Co.'s No. 1 C. T. Shelton, 330 ft. from W line of S 59-ac. tract and 369 ft. from S line of survey, William King Sur. ..... Derrick pattern.
Lewis Sikes et al's No. 1 H. Mayers, 330 ft. from W line and center of N and S lines of 25-ac. lease, A. T. McGee Sur. ..... Location.
J. L. Roberts' No. 1 Anna L. Jenkins, 330 ft. from E line and center of N and S lines of 37.5-ac. tract, H. Edwards Sur. ..... Drlg. 985 ft.
Sun Oil Co.'s No. 1 T. C. Raney, 250 ft. from S line and 200 ft. from W line of lease ..... Waiting on casing.
Treco Oil Co.'s No. 1 A. D. Adkins, center of 6-ac. lease in the William King Sur. ..... Testing 3,765 ft.
Smith Bros.' No. 1 J. W. Davis, 400 ft. from N and 800 ft. from W lines of S 200 acres of J. W. Davis 380-ac. tract in John Burleson Sur. ..... Set 10-in. at 97 ft.
J. R. Smith's No. 1 J. B. Webb, 200 ft. N and 489 ft. W of SE cor. of W 20 acres of 71-ac. tract, G. W. Hooper Sur. ..... Rigging up.
Sorrels & Duffey's No. 1 J. W. Wooden, 200 ft. from E and 200 ft. S of survey, Isham Williams Sur. .... Shut down 3,710 ft.
Wolf's No. 1 Cook, center of 115-ac. tract in Jacob Walker Sur., 5 miles W of Rosewood ..... Shut down 1,100 ft.

VAN ZANDT COUNTY

Barton et al's No. 1 C. L. Hubbard, 600 ft. out of NE cor. of Hubbard 325-ac. tract, 3½ miles S of Canton, M. J. Cadena Sur. ..... S.D. 2,000 ft.
Kelly Oil & Gas Co.'s No. 1 Lemsford, center of Lemsford tract, John Conner Sur. ..... S.D. 2,300 ft.
W. P. Palmer et al's No. 2 W. P. Forster, 600 ft. from N and 450 ft. from E of SW cor. of Forster 151-ac. tract in the F. Montgomery Sur. ..... S.D. 3,393 ft.
Pure Oil Co.'s No. 4 W. A. York, 890 ft. W of E line and 660 ft. S of N line of W. A. York 50-ac. tract, John Walling Sur. ..... Preparing to set csg.
Van Oil Association's No. 1 Tankersley, 200 ft. from E and 1,000 ft. from S of farm, L. Landers Sur. ..... Total depth 2,850 ft.
Pure Oil Co.'s No. 1-T V. T. Davis, 400 ft. N of N line of Tunnell No. 3 lease, 480 ft. W of E line of Sur., Nacogdoches County School Land Sur. ..... Drlg. 2,975 ft.
Pure Oil Co.'s No. 4 J. A. Bracken, 735 ft. E of W line and 782 ft. N of S line of lease in John Walling Sur... Cement setting 2,551 ft.
Pure Oil Co.'s No. 7 R. A. Tunnell, 733 ft. E of W line and 711 ft. S of N line of lease in John Walling Sur.. Cement setting 2,562 ft.
Pure Oil Co.'s No. 13 R. L. Wells, 200 ft. N and 695 ft. E of NE cor. of Mary P. Neils' 100-ac. lease, Mund Gross Sur. ..... Drlg. 2,636 ft.
The Texas Co.'s No. 2 J. A. Bracken, 683 ft. N of S line and 250 ft. E of W line of lease in John Walling Sur. ..... Drlg. 1,400 ft.

WOOD COUNTY

Brennan and Wood's No. 1 L. W. Mings, 300 ft. from NW cor. of survey and tract, Moses Stripling Sur.... Derrick.

THE McCORD "LF" Will Serve You Well, Too

Men in the oil fields who have used the "LF" swear by it! Its accurate day in and day out service has made it the preferred equipment for pipe line engines and compressors.

The "LF" can be put on a job with the assurance that it will carry through to the end. Yet not one particle of efficiency has been sacrificed.

What more can be demanded of a lubricator than absolute accuracy and day in and day out dependability?

Ask anyone who has used the "LF" what they think of it and before next purchasing lubricators be sure and investigate those exclusive McCord "LF" features that make its outstanding reputation possible.

McCord lubricators are sold and serviced in the oil fields by all branches of The National Supply Company.

McCORD
RADIATOR & MFG. CO.
(LUBRICATOR DIVISION)
McCord also manufactures McKim Metallic Asbestos Gaskets widely used throughout the oil fields. Ask for catalog No. 17
DETROIT MICHIGAN

THE ANSWER TO A PLANT ENGINEER'S PRAYER

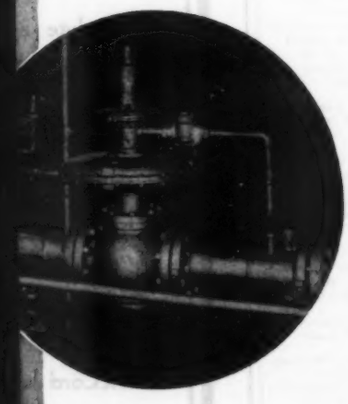
Most industrial plants are very exacting in their gas regulation demands. For years plant engineers have searched in vain for a regulator that would deliver a constant low pressure under widely varying volumes of consumption.

The Neilan No. 29 is the answer to these engineers' prayers. Here is a supersensitive reducing regulator which is actually doing a remarkable job of gas pressure control in a rapidly increasing number of process and general industrial plants. Neilan No. 29's are establishing new standards of pressure control in scores of gas-fired boiler hooks-ups in public utility plants, coke ovens, drying and baking kilns, glass furnaces and tempering lehrs, heating treating and metallurgical furnaces and many others. Refiners are smoothing out their entire plant operation by insuring constant temperature in gas-fired crude oil stills.

The Neilan No. 29 is the development of a distinctive new type of pilot operated regulator. Its main actuating diaphragm is pressure balanced and full floating. Naturally this eliminates pilot lag and makes the 29 instantaneously sensitive. Then, too, each No. 29 is equipped with the Neilan Parabolic Gradual Opening Valve which enables it to handle very small volumes or full capacity with equal ease. Furthermore, the speed of this Neilan Regulator permits it to be used without a reservoir.

If you require constant low gas pressures for any purpose you will be interested in the increased efficiency and savings that are yours by using Neilan No. 29's.

Write for the Descriptive Bulletin



One of three Neilan No. 29's which are supplying 28 large boilers in a sugar refinery with constant fuel gas pressure.

YOU CAN BE SURE OF NEILAN PRODUCTS

NEILAN CO., Ltd.

641-651 Santa Fe Ave., Los Angeles, California

NEW YORK, 30 Church St. . . . . Rudolph B. Werey, Mgr.
CHICAGO, 400 No. Michigan Blvd. . . . . Arthur J. Foley, Mgr.
PITTSBURGH, Clark Bldg. . . . . Bruce Irwin, Mgr.

NEILAN

SAN FRANCISCO, Crocker Bldg. . . . . Wm. T. Mayer, Mgr.
BAKERSFIELD, Calif., 328 Oleander Ave. . . . Don B. Church, Mgr.
MARACAIBO, Venezuela, Apartado 298 . . . Patrick H. Heeney, Mgr.

Representatives (stock carried) HOUSTON, 1400 Conti St. . . . Maintenance Engineering Corp. TULSA, 221 East Archer St. . . . . Camp-Morgan Co.

Brief Items for Petroleum Refiners

Bureau of Mines Issues Report on Sulphur Lamp Test

Elementary sulphur present in gasoline in excess of .1 per cent can not be accurately determined by the lamp method according to a report of Ralph H. Espach and O. C. Blade of the U. S. Bureau of Mines. The complete report has been issued as Technical Paper 513 and includes a discussion of the development of the present A.S.T.M. lamp method of determining sulphur and in summary the following conclusions are drawn:

A study of the Edgar and Calingaert[1] lamp method test for the sulphur content of gasoline has brought out the fact that when air purifiers are used in conjunction with the lamp care must be exercised to avoid suction on the lamp tip as this affects the accuracy of the determinations.

An indicator, such as the methyl orange indigo carmine, gave much better results in titrating the carbonate solution than did methyl orange. The sharpness of the endpoint is such that determination of the alkaline factor of the water used in the tests is advisable.

When determining ethyl mercaptan sulphur in gasoline one must exercise care in handling the gasoline sample to reduce evaporation losses to a minimum, otherwise these losses may have a marked effect on the difference between the determined sulphur content and calculated content of the sample.

The data show that elementary sulphur in gasoline can be determined in low concentrations only; above 0.10 per cent it can not be determined satisfactorily.

A study of the sulphides and disulphides indicates that these compounds can be determined accurately by the lamp method in concentrations of 0.30 per cent.

No difficulty was experienced in determining concentrations of butyl mercaptan sulphur up to 0.15 per cent. The set of determinations for a concentration of 0.30 per cent might indicate that at this concentration the lamp method was beginning to give lower results than the calculated amount of sulphur in the gasoline and consequently is not accurate for determining the larger amounts of mercaptan sulphur.

The studies on the determination of ethyl mercaptan sulphur show that the lamp method becomes less reliable as the sulphur content increases.

The deductions drawn from the data on measuring elementary sulphur and certain organic sulphur compounds dissolved in gasoline will probably hold not only for the Edgar and Calingaert method, but for all methods that depend on burning the gasoline and sulphur impurities in a wick lamp and absorbing the oxidized sulphur in a carbonate solution.

In general, the determinations of sulphur prove quite clearly that the Edgar and Calingaert method, with the use of a sensitive indicator and provision against undue evaporation losses and improper lamp operation, is a very satisfactory method of obtaining check results and, in the case of some sulphur compounds, of accurately determining the percentage of sulphur in the gasoline. This method also permits determinations whose average deviations from the mean are less than the deviations that occur in using the A.S.T.M. D90—30T method.

The complete bulletin may be secured by addressing the U. S. Printing Office, Superintendent of Documents, at Washington, D. C., requesting Technical Paper 513 and enclosing 5 cents.

[1] Ind. & Eng. Chem., Jan. 15, 1930, p. 164.

TO INCREASE OCTANE NUMBER OF ETHYL GASOLINE FROM 74 TO 78

NEW YORK, Nov. 2.—Effective March 1, 1932, revised standards of Ethyl gasoline blends will be put into effect throughout the country, the principal change being an increase of from 74 to 78 octane number in the antiknock value of the motor fuel mixtures.

In a letter to all licensees, Ethyl Gasoline says:

"We have just completed what we believe to be an extensive review of the advances that have been made and trends indicated in the art of refining and automotive engineering since the present 'Standardization (For Use in Automobiles)' clause was prepared and the antiknock value of our present standard Ethyl was fixed at 74 octane number.

"From such review we have concluded that in order to maintain the position of Ethyl Gasoline as an outstanding quality product capable of meeting the demands of the motor car industry, we should raise the antiknock value of standard Ethyl Gasoline from 74 to 78 octane number, and that other changes in reference to standardization should be put into effect.

"In connection with said change, the price of tetraethyl lead will remain as at present—namely $13.25 per U. S. gallon (which is equivalent to thirty-five hundredths of a cent (.35c) per cubic centimeter of tetraethyl lead); but the 'gallonage charge' will be forty-two and one-half hundredths of a cent (.425c) instead of fifty one-hundredths of a cent (.50c) for each gallon of gasoline with which you mix or cause to be mixed Ethyl brand of antiknock compound, which 'gallonage charge' will apply to mixes made on and after March 1, 1932, and subject, of course, to all the other terms and conditions of the said License and Sales Agreement.

"The foregoing decision was not reached until after what we thought to be a very careful, extensive, and thorough investigation, review, and consideration of the various factors involved. We believe that this change will prove of advantage to you and all those interested in the sale of Ethyl Gasoline."

Text of License

The complete text of the standards submitted to Ethyl licensees in connection with the revision in antiknock value of Ethyl compounds follows:

The amount of "Ethyl" fluid to be added to buyer's gasoline shall be at least sufficient—as determined by seller's laboratory—to make it equal in antiknock value to the standard Ethyl Gasoline as fixed by seller. (Seller's laboratory rates this standard as 78 octane number.) A reasonable number of samples of said standard will be supplied buyer on request.

The parties hereto recognize that it would be detrimental to the good will in and reputation of said compound if it were used in gasoline not conforming to a certain standard of quality, and the parties therefore agree that the said antiknock compound shall not be mixed or sold with any gasoline that does not have the following distillation characteristics:

From April 1 to October 1, to-wit:

Not less than 10 per cent evaporated at 158 degrees F.; not less than 50 per cent evaporated at 284 degrees F.; not less than 90 per cent evaporated at 392 degrees F.

From October 1 to April 1, to-wit:

Not less than 10 per cent evaporated at 149 degrees F.; not less than 50 per cent evaporated at 284 degrees F.; not less than 90 per cent evaporated at 392 degrees F.

Residue shall not be more than 2 per cent.

Vapor Pressure: From April 1 to October 1 the Reid vapor pressure at 100 degrees F. shall not exceed 8 pounds per square inch. From October 1 to April 1 the Reid vapor pressure at 100 degrees F. shall not exceed 10 pounds per square inch. Sulphur content shall not be more than 0.10 per cent. Corrosion: A clean copper strip shall not show more than extremely slight discoloration when submerged in the gasoline for 3 hours at 122 degrees F.

Gum: The parties hereto appreciate that improperly refined gasoline may contain gum-forming substances in sufficient amount to interfere with the proper operation of an internal combustion motor, and buyer agrees that it will use due diligence to prevent the mixing of "Ethyl" fluid with such gasoline. In the event the seller shall determine from samples of such gasoline as may be submitted by buyer for blending with "Ethyl" fluid that by reason of gum content it would be detrimental to the reputation of said antiknock compound to treat such grade of gasoline with "Ethyl" fluid, then such decision shall be accepted by the buyer as final.

The parties recognize that it may be expedient to change seller's standard of quality from time to time to keep abreast of advances in the art of refining and/or automotive engineering, and therefore the seller reserves the right to make changes at any time upon giving one hundred and twenty (120) days' written notice in advance to buyer.

Testing Procedure

In order to insure that the Ethyl Gasoline manufactured by the buyer under this license conforms to at least the minimum requirements of this agreement, the following procedure shall be followed in reference to each and every individual proposed mixture of said antiknock compound with buyer's gasoline (unless written exception may have been made by

(Continued on Page 102)

NEW OKLAHOMA CITY REFINERY

New Oklahoma City plant of Peerless Refinery & Gasoline Corp. Operation started November 1 and it is planned to enlarge the plant in the near future by installing a flash tower. Paul S. Baker is president and O. S. Matson secretary and treasurer. Offices are in Oklahoma City.

SIMRALL MAY BUILD REFINERY IN CANADA

CHATHAM, Ontario, Nov. 2.—Simrall Refining Co. of Canada has been incorporated under Ontario charter with head office at Windsor, Ontario. The authorized capitalization consists of 500 Class A shares of $100 par and 200,000 no par common shares. Provisional directors are J. J. Maclennan, J. N. Black and E. Corrigan, but W. F. Simrall is president and the company is stated to be backed by Cincinnati interests.

Announcement is made that the company has secured a river-front site at Amherstburg, Ontario, and is planning to build a 3,000-bbl. refinery at an estimated cost of $150,000. A plant at Muskegon, Mich., is reported to have been optioned and may be moved to Canada. Crude oil will be taken from the Buckeye Pipe Line Co. and also brought by tank car from the Kentucky fields. An affiliated corporation, the Simrall Refining Corp., Cincinnati, Ohio, operates a refinery at Horse Cave, Ky.

ORGANIZE OCTANE COMPANY

The Octane Oil & Refining Co. has started the construction of a 1,400-bbl. refinery at Chautauqua Switch, which is midway between Baird and Putnam in Callahan County, Texas, to process crude which is being produced from the shallow wells in this area. The plant will be located on the Texas Pacific Railroad and is to cost a reported sum of $125,000, employing about 20 men. Sylvester Payson, former vice president of the Lion Oil Refining Co., Eldorado, Kans., is president of the Octane company.

OKLAHOMA A. C. S. MEETS

The petroleum group of the Oklahoma section of the American Chemical Society will meet in the Petroleum Engineering Building, University of Tulsa at 8 p. m., Saturday, November 7. M. B. Chittick, assistant chief chemist, the Pure Oil Co., will present a paper entitled "Gum Content and Antiknock Value of Vapor Phase Gasoline."

Manufacture of Natural Gasoline

September Output California Fields Declines Further

Natural gasoline stocks were reduced 87,374 bbls. during October as consumption exceeded production by that amount. Stocks at the close of September were shown as 2,128,041 bbls. and at the beginning of the month were 2,216,029 bbls. Stocks at the close of September represented approximately 50 days' supply at the current rate of consumption.

The production of 50,344,001 gallons from 33,637,848,000 feet of gas during September was reported by the 121 operating plants. This is a decrease of 2,133 bbls. in the daily average production compared to that of the previous month.

The above number of operating plants is 4 less than the number operating during August and partially accounts for the reduction in the output. Production in the Kettleman Hills area showed a marked decrease dropping from 14,169,028 gallons in August to 10,679,058 bbls. in September.

This was brought about partially by the shutdown of The Texas Company plant which was destroyed by fire early in the month. Production in all of the other areas showed a decline.

The output of natural gasoline and its utilization in California for September is shown in the following table:

CALIFORNIA NATURAL GASOLINE PRODUCTION, DISTRIBUTION AND STOCKS SEPTEMBER, 1931

Production by fields—	Gas treated (thousand cu. ft)	Natural gasoline produced (gallons)
Fullerton and Whittier	650,670	1,576,269
Midway	1,620,496	3,077,244
Huntington Beach	509,594	1,560,391
Kettleman Hills	9,320,983	11,602,837
Long Beach	4,742,297	9,848,876
Richfield	422,246	527,019
Santa Fe Springs	6,401,453	9,433,848
Seal Beach	575,311	998,637
Ventura Avenue	4,426,501	4,264,807
All Other Fields	4,968,292	7,454,073
Total	33,637,843	50,344,001

Production By Methods

Type of plant—	Gas treated mcf	Natural gasoline produced (gallons)	Gasoline recovery per mcf gas treated
Oil absorption	33,474,455	50,153,293	1.498
Compressor	163,393	190,703	1.167
Total	33,637,848	50,344,001	1.497

Finished gasoline produced at plants, 300 bbls.

Distribution—		
Stocks first of month		2,216,029
Produced during month		1,198,667
Quantity mixed with crude or unfinished oils	154,916	
Used in blending at refineries	733,890	
Shipments	270,769	
Stocks end of month	2,128,655	
*Balance	126,466	
	3,414,696	3,414,696
Stocks—		
Natural gasoline held by natural gasoline plant operators	7,442,838	177,210
Natural gasoline held by refineries	81,960,690	1,951,445
Total	89,403,528	2,128,655

*Includes evaporation losses, purchased by jobbers for blending, etc.

ANNOUNCE CALIFORNIA MEETING

The fall meeting of the California Natural Gasoline Association will be held on Thursday, November 12, at 7 p. m. in the Ball Room of the Hotel Alexandria, Los Angeles. A decided departure is being made this year in providing the entertainment in that a Revue is being presented by the Radio Keith Orpheum under the direction of Johnnie Beck, Jr.

SHUTDOWN IN OKLAHOMA FIELDS MATERIALLY LOWERS PRODUCTION

The production of natural gasoline continued to decline in September, when the daily average output amounted to 4,290,000 gallons, as compared with 4,310,000 gallons the previous month. The loss in output in September was due chiefly to decline in the Oklahoma City and Seminole Fields following the shutdown, in the Texas Panhandle and in the Kettleman Hills Field. Production in the older fields of Oklahoma made a notable gain, as efforts were made to step up output to compensate for losses in the flush fields. Stocks of natural gasoline at the plants reflected the decline in output in September as well as the gain in consumption by refiners and fell from 30,344,000 gallons on September 1 to 25,808,000 gallons on September 30.

The September production continued to show a large decline when compared with the same month of the previous year. The total of 128,600,000 gallons for September was 45,800,000 gallons or 26.2 per cent less than the total for September, 1930. Production in all three of the major states is substantially less than it was a year ago. Due to the shutdown of Oklahoma City and Greater Seminole Fields, Oklahoma production in September totaled 25,600,000 gallons, which was approximately 45 per cent less than the 45,900,000-gallon total for September of last year.

Texas production, with no military shutdowns during September which influenced natural gasoline production, decreased from 41,800,000 gallons in September, 1930, to 32,700,000 gallons in September of this year. California production decreased from 65,600,000 gallons to 50,300,000 gallons. Output has decreased in all the smaller states with the exception of the Rocky Mountain states where production totaled 6,100,000 gallons in September, 1931, which compares with 4,800,000 gallons in September, 1930.

In addition to the shutting down of the plants in the Oklahoma City and Seminole Fields by military order there was a general curtailment of plant operations throughout the greater part of the United States. Natural gasoline prices have been held to such a low level for so long a time that many plants have been shut down for that reason. Heretofore when price drops occurred the normal operation of the plants was continued and in a short time the price was increased sufficiently to again make the plants' operation profitable. This has not been true over the past six months and consolidations and shutting down has been made a general practice. This has been most noticeable in the older fields of Oklahoma and Texas and in the North Louisiana and Arkansas group.

The following table summarizes the Bureau of Mines production report for September:

(Thousands of gallons.)

	Natural gasoline: Production Sept., 1931	Production Aug., 1931	Production Sept., 1930	Stocks end of month Jan.-Sept.	Stocks end of month Sept., 1931	Stocks end of month Aug., 1931	Blended motor fuel Sept. 1931: Nat'l gasoline used	Naphtha, or other oils used	Stocks end of month
Appalachian	4,400	4,000	4,800	54,000	2,358	2,980	71	85	191
Ill., Ky., Ind.	700	600	900	7,100	263	365	...	...	...
Oklahoma	25,600	26,100	45,900	337,800	7,385	8,368	93	116	93
Oklahoma City	600	1,200	4,000	33,100	338	332	...	...	...
Osage County	4,900	4,000	6,400	48,600	3,240	2,830	...	...	7
Seminole	7,200	9,800	18,300	126,900	1,479	2,193	17	8	18
Rest of State	12,900	11,600	17,200	129,200	2,328	3,013	76	108	68
Kansas	2,300	2,300	2,500	22,500	586	1,303	21	19	8
Texas	32,700	34,200	41,800	325,900	6,093	9,021	121	282	59
Panhandle	16,500	17,400	21,700	157,600	2,852	3,894	62	76	19
North Texas	3,000	2,500	3,400	28,500	912	1,159	16	8	13
West Central	8,300	9,300	12,100	92,700	1,506	3,062	43	198	27
Rest of State	4,900	5,000	4,600	46,200	823	906	...	...	...
Louisiana	4,600	2,700	5,600	39,700	868	767	21	10	2
Arkansas	1,900	2,000	2,500	21,100	235	377	203	229	26
Rocky Mountain	6,100	5,800	4,800	51,000	577	692	...	...	...
California	50,300	54,800	65,600	516,900	7,443	6,471	...	...	...
Huntington Beach	1,600	1,700	2,600	16,200	.....	...			...
Kettleman Hills	11,600	14,200	13,500	130,100	.....	.....	...	...	...
Long Beach	9,800	10,500	14,700	104,900	...	.....	...	...	...
Santa Fe Springs	9,400	9,700	15,600	94,000	...	.....	...	...	...
Ventura Avenue	4,300	4,300	5,300	41,200	...	.....	...	...	...
Rest of State	13,600	14,400	13,900	130,500	.....	.....	...	...	...
Total	128,600	133,500	174,400	1,375,100	25,808	30,344	530	741	379
Daily average	4,290	4,310	5,810	5,040	.....	.....	...	...	...
Ttl. (thous. bbls.)	3,062	3,179	4,152	32,740	614	722	13	18	9
Daily average	102	103	138	120	.....	.....	...	...	...

ARKANSAS NATURAL HAS CURTAILED OPERATIONS

Two plants of the Arkansas Natural Gas Co. have been temporarily shut down in the North Louisiana-Arkansas area. One of these is the Louann plant in Section 24-15s-17w of Ouachita County, Arkansas, and the other is in Bossier Parish, Louisiana, in Section 31-11w-23n. These plants have a combined capacity of 25,000 gallons and reduce the operating capacity of the company's plants from 57,000 gallons on the first of the year to 32,000 gallons.

The curtailment of operations has been made a general practice in all fields and by practically all companies as a result of the relatively poor market during the past summer. Because of the marked strengthening of prices now it is believed that first the operations of the active plants will be increased and then some of the shut-down plants reopened.

INSTALL TWO BUTANE PLANTS IN MARYLAND

The Eastern Shore Gas Co. has completed two butane gas plants, one located at Pocomoke City, Md., and the other at Ocean City, Md. The company also has built 8 miles of pipe line from Ocean City to Berlin, Md., where a gas distributing system has been installed.

The Ocean City plant was built in 30 days. It consists of two brick buildings, two storage tanks and 5 miles of distributing system. The Pocomoke distributing system has 7 miles of pipe line. The company has installed a propane plant in Snow Hill, Md.

The Eastern company began its operations April, 1931, and at this time has installed approximately 300 meters. Robert Lewis of Rochester, N. Y., is president and P. J. Minck, formerly of Tulsa, is general manager.

Use Liquefied Gas As Motor Fuel and Truck Refrigerant

The Shell Oil Co. of California has perfected an installation for trucks in which liquefied gas is used as a motor fuel and also a refrigerant. The equipment provides for the storage of the liquefied gas in cylinders under pressure. The liquid is released as gas through a refrigerating coil and then passes to the truck engine where it is used as motor fuel. The invention is primarily intended for trucks carrying perishable products.

The announcement from the San Francisco offices of the company states that the device has been tested in truck operations of more than 25,000 miles. D. W. Davidson and F. G. Welks, coinventors, said the new device eliminates carbon as well as preventing crankcase dilution. No carburetor is needed as the fuel is in gaseous form as soon as it is released from the cylinders. Mileage costs on fuel are said to be approximately the same as that of ordinary gasoline but the cost of equipping a truck with a cooling unit is less because no equipment is required for recompressing the gas.

The Shell announcement did not state the characteristics of the liquefied gas. Another major company in California used propane obtained from its natural gasoline plants as motor fuel for buses in Los Angeles. The propane was compressed in cylinders and allowed to expand as gas directly to the engine. The new fuel was used for several weeks with satisfactory results, although there were no reductions in fuel costs when compared to ordinary refinery gasoline. Other companies have made similar experiments.

The large quantities of propane available from natural gasoline and the increasing quantities now being obtained at refineries due to the enlarged cracking facilities has emphasized the need for new markets, and several companies have been conducting investigations.

OPERATING NEW PLANT ON CHICAGO GAS LINE

The new 72,000-gallon natural gasoline plant of the Texoma Natural Gas Co. at Fritch, Tex., is now operating as part of the project of the Natural Gas Co. of America in supplying Chicago and other points with gas from the Panhandle fields of Texas through its new 24-inch pipe line.

This plant not only extracts the gasoline from the gas, but conditions the gas. Here the water vapor content of the gas is reduced to only a trace by subjecting the gas to 600 pounds pressure and cooling it to 40° F. The cooling is accomplished by expanding propane. The operation of the plant is carried out for the purpose of subjecting the gas to a greater pressure and lower temperature than it will meet at any point along the 900 miles of travel to Chicago.

OUTLINE SPECIFICATIONS FOR LIQUEFIED GASES

The Natural Gasoline Association expects to be able to announce specifications for all liquefied petroleum gas products in the near future as the result of a long and tedious investigation made by the liquid gas committee with George Oberfell of the Phillips Petroleum Co. as chairman. The committee will establish specifications for propane, butane, etc., for the purpose of promoting their sale as the result of a better understanding between the manufacturer and the buyer and also to expand the usefulness of these products.

ALCO

PROCESS PLANTS and EQUIPMENT

It is the policy of Alco's technical staff to strive for greater flexibility and more efficient operation, with a coincident reduction in the cost of equipment. The diversified and thoroughly modern plant facilities of the Company permit the widest latitude in such engineering developments.

ALCO PRODUCTS INC.

ALCO PRODUCTS · INCORPORATED

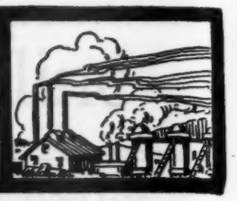
MAIN OFFICE: *220 East 42d St., New York* · DISTRICT OFFICES: *McCormick Bldg., Chicago; Terminal Tower Bldg., Cleveland; Esperson Bldg., Houston, Tex.; Barr Bldg., Washington, D.C.; Philtower Bldg., Tulsa, Okla.* · Plant at Dunkirk, N.Y. · *Cable Address:* Alproducts

FOREIGN ASSOCIATES: American Locomotive Sales Corporation, *25 Victoria St., London, S.W. 1, England.* E. H. Pearson, *Manager*
S. A. Alco Products International, *170 Rue Faubourg St. Honore, Paris, France*

DIVISION · OF · AMERICAN · LOCOMOTIVE · COMPANY

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.



GASOLINE AND NAPHTHA

	Nov. 3		Oct. 27		Oct. 20	
OKLAHOMA (Group 3)—						
50-52 450 endpoint	.04		.03½	.03¾	.03¼	.03½
56-58 450 endpoint	.04¼		.03¾	.04	.03⅝	.03½
58-60 437 endpoint (U. S. Motor)	.04¼	.04⅝	.04	.04½	.03⅝	.04
60-62 437 endpoint	.04¼	.04⅝	.04	.04½	.03⅝	.04
60-62 400 endpoint	.04⅜	.04¾	.04¼	.04⅝	.04	.04¼
64-66 375 endpoint	.04⅞	.05	.04⅝	.04⅝	.04½	.04⅝
68-70 360 endpoint	.05¼	.05½	.05	.05¼	.04⅝	.04⅝
64-66 437 endpoint (blend)	.04	.04¼	.03¾	.04	.03½	.03⅞
NORTH TEXAS—						
50-52 450 endpoint	.04		.03½	.03¾	.03¼	.03½
58-60 450 endpoint	.04	.04⅛	.03⅝	.03¾	.03¼	.03½
58-60 437 endpoint (U. S. Motor)	.04⅛	.04½	.04	.04¼	.03½	.03⅝
60-62 400 endpoint	.04¼	.04⅝	.04	.04½	.03¾	.04
64-66 390 endpoint	.04⅝	.04¾	.04½	.04⅝	.04	.04⅛
64-66 375 endpoint	.04⅜	.05	.04⅝	.04⅝	.04⅜	.04⅝
68-70 360 endpoint	.05⅛	.05½	.05	.05¼	.04⅝	.04¾
64-66 437 endpoint (blend)	.04	.04¼	.03¾	.04	.03¾	.03½
***NORTH LOUISIANA—**						
58-60 437 endpoint (U. S. Motor)	.04½		.04¼		.04	
***ARKANSAS—**						
58-60 437 endpoint (U. S. Motor)	.04½		.04¼	.04⅜	.04	
PENNSYLVANIA—						
52-54 Naphtha	.04¼		.04¼		.04¼	
54-56 Naphtha	.04¼	.04½	.04¼	.04½	.04¼	.04½
58-60 Gasoline	.04½	.04¾	.04½	.04¾	.04½	.04¾
60 Gasoline	.04¾	.05	.04¾	.05	.04¾	.05
62 Gasoline	.05	.05¼	.05	.05¼	.05	.05¼
64 Gasoline	.05¼	.05¾	.05¼	.05¾	.05¼	.05¾
68-70 350 endpoint gasoline	.05¾	.06	.05¾	.06	.06	
CALIFORNIA—						
†54-58 437 endpoint (U. S. Motor) domestic	.05½	.06¾	.05¾	.06¾	.05¾	.06¾
58-60 400 endpoint domestic gasoline	.06	.07¼	.06¼	.07¼	.06¼	.07¼
CHICAGO DISTRICT (Based on Group 3)—						
50-52 450 endpoint (Naphtha)	.04	.04⅛	.03¾	.04	.03⅛	.03½
58-60 437 endpoint (U. S. Motor)	.04⅛	.04¼	.03⅞	.04¼	.03⅝	.03⅝
60-62 400 endpoint	.04½	.04⅝	.04	.04½	.03½	.04
64-66 375 endpoint	.04⅜	.05	.04⅜	.04⅝	.04½	.04½
68-70 360 endpoint	.05⅛	.05¼	.04⅜	.05	.04½	.04⅜
64-66 437 endpoint (blend)	.04		.03¾	.04	.03½	.03¾
GULF COAST (Export)—						
58-60 U. S. Motor	.03¾	.03⅞	.03¾	.04	.03½	.04
60-62 400 endpoint	.04⅛		.04¼		.04¼	
61-63 390 endpoint	.04⅛		.04¼		.04¼	
64-66 375 endpoint	.04½		.04½		.04½	

*Louisiana, Arkansas and Mississippi delivery. †For Pacific Coast consumption.

NATURAL GASOLINE

	Nov. 3		Oct. 27		Oct. 20	
OKLAHOMA (Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.04¾		.04¾		.04⅞	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.04⅝	.04¾	.04⅝		.04¼	
Grade B, 76-83.9, 375 e.p., rec. 85%	.04⅝	.04⅝	.04¼		.04¼	
Grade BB, 84-92, 375 e.p., rec. 85%	.04⅝	.04¾	.04¼		.04¼	
Grade C, 80-92, 375 e.p., rec. 78%	.04⅝	.04¾	.04¼		.04¼	
NORTH TEXAS—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.04⅝		.04¾		.04¼	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.04⅝	.04½	.04⅝		.04	
Grade B, 76-83.9, 375 e.p., rec. 85%	.04⅝	.04½	.04⅝		.04	
Grade BB, 84-92, 375 e.p., rec. 85%	.04⅝	.04½	.04⅝		.04	
Grade C, 80-92, 375 e.p., rec. 78%	.04⅝	.04½	.04⅝		.04	
NORTH LOUISIANA—						
Grade AA, 80-87, 375 e.p., rec. 90%	.04¾		.04¾		.04¼	
Grade BB, 84-92, 375 e.p., rec. 85%	.04¾		.04¾		.04¼	
Grade C, 80-92, 375 e.p., rec. 78%	.04¾		.04¾		.04¼	
CALIFORNIA—						
75-78 375-390 endpoint	.05¼	.06¼	.04¾	.05½	.04¾	.05½
CHICAGO DISTRICT (Based on Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.04½	.04¾	.04¾		.04¼	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.04½		.04¾		.04¼	
Grade BB, 84-92, 375 e.p., rec. 85%	.04½		.04¾		.04¼	

BURNING OIL

	Nov. 3		Oct. 27		Oct. 20	
OKLAHOMA (Group 3)—						
41-43 water white kerosene	.02	.02¼	.02	.02¼	.02	.02½
42-44 water white kerosene	.02⅛	.02⅜	.02⅛	.02⅜	.02⅛	.02¼
NORTH TEXAS—						
41-43 water white kerosene	.02	.02⅛	.02⅛		.02	.02⅛
40-41 water white kerosene	.02		.02		.02	
***NORTH LOUISIANA—**						
41-43 water white	.02¾		.02½	.02¾	.02½	
***ARKANSAS—**						
41-43 water white kerosene	.02¾		.02½	.02¾	.02½	
PENNSYLVANIA—						
43 Kerosene prime white	.03½		.03½		.03½	
45 Kerosene water white	.03⅝	.03¾	.03⅝	.03¾	.03⅝	.03¾
46 Kerosene water white	.03⅞	.04	.03⅞	.04	.03⅞	.04
CALIFORNIA—						
38-40 water white Kero. (high burning test)	.04	.05	.04	.05	.04	.05
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white kerosene	.02	.02⅛	.02	.02⅛	.02	.02⅛
42-44 water white kerosene	.02⅛	.02⅜	.02⅛	.02⅜	.02⅛	.02⅜
GULF COAST (Export)—						
41-43 water white	.03¾		.03¾		.03½	
44 prime white	.03½	.03¾	.03½	.03¾	.03½	.03¾

*Louisiana, Arkansas, Mississippi and East Texas delivery.

FUEL OIL

	Nov. 3		Oct. 27		Oct. 20	
OKLAHOMA (Group 3)—						
Below 18 gravity Fuel Oil, per bbl.	.25	.30	.25	.30	.25	.30
18-22 Fuel Oil, per bbl.	.30	.35	.30	.35	.27½	.35
20-22 Fuel Oil, per bbl.	.32½	.37½	.32½	.37½	.30	.35
22-26 Fuel Oil, per bbl.	.35	.40	.35	.40	.32½	.37½
24-26 Fuel Oil, per bbl.	.40	.45	.40	.45	.37½	.42½
26-30 Fuel Oil, per bbl.	.45	.50	.47½	.50	.45	.50
28-30 Fuel Oil, per bbl.	.50	.55	.50	.55	.47½	.52½
32-36 Gas Oil (industrial)	.01⅜	.01½	.01⅜	.01½	.01⅜	.01½
32-36 Gas Oil (straw color, high cold test)	.01⅜	.01½	.01⅜	.01½	.01⅜	.01½
32-36 Gas Oil (straw color, low cold test)	.01⅝	.01¾	.01⅝	.01¾	.01⅝	.01⅞
36-38 Distillate	.01¾		.01¾		.01⅝	.01⅞
38-40 Straw Distillate	.01¾	.01⅞	.01¾	.01⅞	.01⅝	.01¾

Note—Fuel oils over 40 cold test generally 5 to 10 cents per barrel less when available.

NORTH TEXAS—						
Below 20 gravity Fuel Oil, per bbl.	.35	.45	.35	.40	.30	.35
24-26 Fuel Oil, per bbl.	.40	.45	.40	.45	.35	.40
32-36 Gas Oil (industrial)	.01¼	.01⅜	.01¼	.01⅜	.01¼	.01⅜
38-40 Straw Distillate	.01⅝	.01¾	.01⅝	.01¾	.01⅝	.01¾
***NORTH LOUISIANA—**						
18-20 Fuel Oil, per bbl.	.40	.50	.40	.50	.40	.50
30-32 Gas Oil (low cold test)	.02		.01¾	.02	.01½	.01¾
***ARKANSAS—**						
33-36 Distillate	.01¾	.02	.01¾	.02	.01¾	.02
30-32 Gas Oil	.01¾		.01¾		.01½	.01¾
16-22 Refinery Fuel Oil, per bbl.	.35	.50	.35	.50	.35	.50
GULF COAST (South Texas)—						
Gas Oil	.02¼	.02½	.02¼	.02½	.02¼	.02½
Bunker C Fuel (cargo lots), per bbl.	.40	.45	.40	.45	.40	.45
Bunker C Fuel (small lots)	.45		.45		.45	
PENNSYLVANIA—						
30-34 Fuel Oil	.02¾		.02¾		.02¾	
36-40 Gas Oil	.02¾	.03	.02¾	.03	.02¾	.03
CALIFORNIA—						
42-45 480 endpoint engine distillate	.06¾	.07¾	.06¾	.07¾	.06½	.07½
15-19 Fuel Oil, Bunker (at tidewater), bbl.	.60	.80	.60	.80	.60	.80
15-19 Fuel Oil, cargo lots (tidewater), bbl.	.55	.75	.55	.75	.55	.75
†15-19 Fuel Oil (f.o.b. tank cars), bbl.	.45	.75	.45	.75	.45	.75
27 plus Diesel, per bbl.	.80	.95	.80	.95	.80	.95
30-34 Gas Oil	.80	.95	.80	.95	.80	.95
CHICAGO DISTRICT (Based on Group 3)—						
18-22 Fuel Oil, per bbl.	.30	.35	.30	.35	.30	.35
22-26 Fuel Oil, per bbl.	.35	.40	.35	.40	.32½	.40
28-30 Fuel Oil, per bbl. (zero)	.50	.55	.50	.55	.47½	.52½
32-36 Gas Oil (industrial)	.01½	.01⅝	.01½	.01⅝	.01½	.01⅝
32-36 Gas Oil (zero)	.01⅝	.01⅞	.01⅝	.01⅞	.01⅝	.01⅞
38-40 Straw Distillate	.01¾	.02	.01¾	.02	.01¾	.02

*Louisiana, Arkansas, Mississippi and East Texas delivery. †Lowest priced fuel oil has high sulphur content.

LUBRICATING OIL AND WAX

	Nov. 3		Oct. 27		Oct. 20	
OKLAHOMA (Group 3)—						
100 vis., 2 color, 20-25 cold test	.04½	.04¾	.04½	.04¾	.04½	.04¾
100 vis., 3 color, 20-25 cold test	.04	.04½	.04	.04½	.04	.04½
150 vis., 3 color, 20-25 cold test	.06¾	.07¼	.06¾	.07¼	.06¾	.07¼
150 vis., 4 color, 20-25 cold test	.06¼	.06½	.06¼	.06½	.06¼	.06½
180 vis., 3 color, 23-28 cold test	.08¼	.08¾	.08½	.08¾	.08¼	.08¾
180 vis., 4 color, 23-28 cold test	.07¾	.08¼	.07¾	.08¼	.07¾	.08¼
180 vis., 5 color, 23-28 cold test	.07¼	.07½	.07¼	.07½	.07¼	.07½
200 vis., 3 color, 23-28 cold test	.09½	.10	.09½	.10	.09½	.10
200 vis., 4 color, 23-28 cold test	.09	.09½	.09	.09½	.09	.09½
200 vis., 5 color, 23-28 cold test	.08¼	.08½	.08¼	.08½	.08¼	.08½
240 vis., 3 color, 25-30 cold test	.11	.11¼	.11	.11¼	.11	.11¼
240 vis., 4 color, 25-30 cold test	.10¼	.10¾	.10¼	.10¾	.10¼	.10¾
240 vis., 5 color, 25-30 cold test	.09¾	.10	.09¾	.10	.09¾	.10
280 vis., 3 color, 25-30 cold test	.12½	.13	.12½	.13	.12½	.13
280 vis., 4 color, 25-30 cold test	.11½	.12	.11½	.12	.11½	.12
280 vis., 5 color, 25-30 cold test	.10¾	.11	.10¾	.11	.10¾	.11
Cylinder Stocks:						
600, steam refined, light green	.04½	.06	.04½	.06	.04½	.06
600, steam refined, dark green	.04	.05	.04	.05	.04	.05
190-200 vis., D color, Bright Stocks	.21	.22	.21	.22	.21	.22
150-160 vis., D color, Bright Stocks 0-10 c.t.	.19½	.20	.19½	.20	.19½	.20
150-160 vis., D color, Bright Stocks 10-25 c.t.	.19½		.19½		.19½	
150-160 vis., D color, Bright Stocks 25-40 c.t.	.19		.19		.19	
150-160 vis., E color, Bright Stocks	.18½	.19	.18½	.19	.18½	.19
Waxes:						
124-126 White Crude Scale Wax	.01⅝	.01⅞	.01⅝	.01⅞	.01⅝	.01⅞

All bright stock prices are for domestic movement.

PENNSYLVANIA—						
34 Neutral	.05½	.06½	.05½	.06½	.05½	.06½
34 Sundebloom	.05	.05½	.05	.05½	.05	.05½
36 Miners' Neutral	.05½		.05½		.05½	
150, 3 color	.17	.17½	.17	.17½	.17	.17½
180, 3 color	.19	.19½	.19	.19½	.19	.19½
200, 3 color	.21½		.21½		.21½	
220, 3 color	.24	.26½	.24	.26½	.24	.26½
600, steam refined	.14	.14½	.14¼	.14½	.14¼	.15
650, steam refined	.17	.18	.18	.18½	.18	.18½
600, Pennsylvania Flash	.18	.19	.19	.20	.19	.20½
600, E filtered	.18	.18½	.18	.18½	.18	.19
600, D filtered, Oil City	.22	.23	.22	.23½	.23	.23½
Pennsylvania Bright Stocks below 35 c.t.	.27	.27½	.27½		.28	
Pennsylvania Bright Stocks above 35 c.t.	.26½	.27	.26½	.27	.26½	.27
*122-124 White Crude Scale Wax	.02		.02		.02	
†124-126 White Crude Scale Wax	.02		.02		.02	

*At New York.

GULF COAST (South Texas)—						
100 vis., 2-2½ color, pale oil	.05½	.05¾	.05½	.05¾	.05½	.05¾
200 vis., 3 color, pale oil	.07½	.07⅝	.07½	.07⅝	.07½	.07⅝
300 vis., 3 color, pale oil	.08¾	.08⅞	.08¾	.08⅞	.08¾	.08⅞
500 vis., 3½ color, pale oil	.09⅞	.10⅛	.09⅞	.10⅛	.09⅞	.10⅛
750 vis., 3½ color, pale oil	.11⅜	.11⅞	.11⅜	.11⅞	.11⅜	.11⅞
1,200 vis., 3½ color, pale oil	.13⅞	.14⅜	.13⅞	.14⅜	.13⅞	.14⅜
2,000 vis., 4 color, pale oil	.14⅞	.15⅜	.14⅞	.15⅜	.14⅞	.15⅜
200 vis., 5-6 color, red oil	.06¾	.06⅞	.06¾	.06⅞	.06¾	.06⅞
300 vis., 5-6 color, red oil	.07⅞	.08⅜	.07⅞	.08⅜	.07⅞	.08⅜
500 vis., 5-6 color, red oil	.09½	.09⅝	.09½	.09⅝	.09½	.09⅝
1,200 vis., 5-6 color, red oil	.12⅞	.13⅜	.12⅞	.13⅜	.12⅞	.13⅜
2,000 vis., 6 plus color	.14⅞	.15⅜	.14⅞	.15⅜	.14⅞	.15⅜
CALIFORNIA—						
130 vis., 2½-3 color	.08¼	.08¾	.08¼	.08¾	.08¼	.08¾
200 vis., 2½-3 color	.09¼	.10¼	.09¼	.10¼	.09¼	.10¼

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

300 vis., 3-3½ color	.10¼	.11¼	.10¼	.11¼	.10¼	.11¼
350 vis., 3½-4 color	.11¼	.12	.11¼	.12	.11¼	.12
450 vis., 3½-4 color	.12	.12¾	.12	.12¾	.12	.12¾
550 vis., 3½-4 color	.12¾	.13¼	.12¾	.13¼	.12¾	.13¼
Red Neutral:						
200 vis., 4½-5 color	.09¾	.10¼	.09¾	.10¼	.09¾	.10¼
300 vis., 5-6 color	.10½	.11	.10½	.11	.10½	.11
500 vis., 4½-5 color	.12¾	.13½	.12¾	.13½	.12¾	.13½
600 vis., 6½ plus color	.13½	.14¼	.13½	.14¼	.13½	.14¼
700 vis., 6½ plus color	.14½	.15¼	.14½	.15¼	.14½	.15¼

Note—Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK (BAYONNE) EXPORT PRICES

	Nov. 3		Oct. 27		Oct. 20	
Gaso., U.S.M., 58-60, 437 e.p., 65 O.N. (min.)	.05¼	.06¼	.05½	.06¼	.05¼	.06
Gaso., U.S.M., 58-60, 437 e.p., below 65 O.N.	.05¼					
Kerosene, water white, 41-43	.05		.05		.05	
*Fuel Oil, Bunker "C"	.70		.60		.60	
†Fuel Oil, Diesel, 28-30, per bbl.	1.40		1.30		1.30	
Gas Oil, 28 gravity plus	.04		.04		.04	
25 pale Paraffin Oil, tank cars	.10¼		.10¼		.10¼	
28 pale Paraffin Oil, tank car	.07¼		.07¼		.07¼	
280 red Paraffin Oil, tank car	.12½		.12½		.12½	
250 red Paraffin Oil, tank car	.11½		.11½		.11½	
225 red Paraffin Oil, tank car	.10		.10		.10	
200 red Paraffin Oil, tank car	.09¼		.09¼		.09¼	
Domestic heating oil, min. 32 grav., tank car	.03½		.03½		.03½	
Refined Wax:						
120-122 a.m.p., per lb.	.02⅞		.02¾		.02¾	
125-127 a.m.p., per lb.	.03		.02⅞		.02⅞	
130-132 a.m.p., per lb.	.03½		.03⅜		.03⅜	
133-135 a.m.p., per lb.	.04		.04		.04	
135-137 a.m.p., per lb.	.04½		.04½		.04½	
Petrolatum in barrels in carload lots, per pound:						
Dark green	.01¾		.01¾		.01¾	
Amber	.02½		.02½		.02½	
Extra amber	.03		.03		.03	
Cream	.05½		.05½		.05½	
Lily white	.06½		.06½		.06½	
Snow white	.07		.07		.07	

*Lighterage 5 cents a barrel extra. †Lighterage 6.5 cents a barrel.

NEW YORK (BAYONNE) REFINERY PRICES

	Nov. 3		Oct. 27		Oct. 20	
600, steamed refined cylinder stocks, in bbl.	.22	.22½	.22	.22½	.22	.22½
635, steamed refined	.23½	.24	.24	.24½	.23½	.24
650, steam refined	.25	.25½	.25½	.26	.25	.25½
600, Pennsylvania Flash	.26	.27	.26½	.27	.26	.27
630, Pennsylvania Flash	.30	.31	.30½	.31	.30	.31
600, Warren E	.25	.26	.25½	.26	.25	.26
600, Oil City E	.24	.25	.24½	.25	.24	.25
Light 140-150 Bright Stocks	.35	.36	.35½	.36	.35	.36
Dark 140-150 Bright Stocks	.34	.35	.34½	.35	.34	.35

LOS ANGELES EXPORT PRICES

	Nov. 3		Oct. 27		Oct. 20	
Kerosene, water white	.04	.04¾	.04	.04¾	.04	.04¾
U. S. Motor gasoline, 53-55, 437 e.p.	.04¼	.04½	.04¼	.04¾	.04¼	.05
58-60, 400 endpoint gasoline	.04¾	.05	.04¾	.05¼	.04¾	.05½

CRUDE OIL PRICES

OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

East Texas (Nov. 2, 1931)† ..... $ .83
Corsicana heavy (Nov. 2, 1931)* ..... .49
Other fields ..... See gravity table

†Posted by Panola Pipe Line Co., Magnolia Petroleum Co., Tidal Refining Co., Sinclair Refining Co., Gulf Pipe Line Co. *Magnolia Petroleum Co.

EASTERN STATES
Joseph Seep Purchasing Agency
(Effective November 1, 1931)

Pennsylvania Grade Oil in National Transit Lines (Bradford Field) (Oct. 16, 1931) $2.00
Pennsylvania Grade Oil in Southwest Pennsylvania Lines 1.70
Penna Grade Oil in Eureka Pipe Line Lines (West Virginia) 1.60
Penna Grade Oil in Buckeye Pipe Line Lines (Sept. 4, 1931) 1.50
Corning Grade Oil in Buckeye Pipe Line Co.'s Line (Sept. 16, 1931) ..... .80
Ragland Grade Oil in Cumberland Pipe Lines (Kentucky) (Jan. 10, 1931) ..... .60
Wayne district Oil in Cumberland Pipe Lines (April 23, 1931) 1.17

Tide Water Pipe Co.
(Effective November 1, 1931)

Bradford, Pa. $2.00
Allegany, N. Y. 2.00

Pure Oil Co.
(Effective September 12, 1931)

Cabin Creek, W. Va. $1.60
Bradford Hollow, W. Va. 1.60
Kelly's Creek, W. Va. 1.60

Pennzoil Co.
(Effective October 3, 1931)

Pennsylvania Grade Oil in National Transit Lines:
Group A $1.95
Includes Cochran, Franklin, Hamilton and Doolittle districts.
Group B $1.94
Includes Titusville district.
Group C $1.93
Includes Turkey and Tidioute districts.
Group D $1.92
Includes Bear Creek and Porkey districts.
Group E $1.90
Includes Eldenau, Bull Creek, Rough Run, Carbon, Dipner, Bredin, McJunkin, Jameson, Kennerdell, Emlenton, Tiona, Lacy and Kinzua districts.
Price depends on length of pipe line haul to plant at Oil City.

TEXAS PANHANDLE

Gray County, Wheeler County and Carson-Hutchinson Counties. See gravity table

WEST TEXAS

Iatan and Westbrook. . Same as North Texas
Crane, Upton, Crockett, Howard, Glasscock, Ector, Winkler and Pecos Counties* ..... $ .50
Lea County, N. Mex.* ..... .50
Toborg, Pecos County, Aug. 25, 1931†.. .25

*The Texas Company, November 2, 1931. Humble Oil & Refining Co., Gulf Pipe Line Co., same day. †Shell Petroleum Corp.

GULF COAST

Grade A and Grade B classifications discontinued by leading buyers ..... See gravity table
Jennings, La. (Nov. 2, 1931)* ..... $ .65
Lockport, La. (Aug. 27, 1931)†..... See Gulf Coast gravity table
Refugio light ..... See gravity table
Refugio heavy (Nov. 2, 1931)‡ ..... .75
Markham (Nov. 2, 1931)§ ..... .67
High Island (Nov. 2, 1931)¶ ..... .65

*Gulf Refining Co. †Vacuum Oil Co. ‡Humble Oil & Refining. §The Texas Company. ¶Gulf Pipe Line Co.

NORTH LOUISIANA AND ARKANSAS

Smackover, Ark. (all grades) . See note below
Urania, Ark. ..... See note below
Bellevue, La. (June 3, 1931) ..... $ .25
Urania, La. (Nov. 2, 1931) ..... .50
Calion, Ark. (Aug. 22, 1931) ..... .52
East El Dorado, Ark. (Aug. 22, 1931).. .45
Stephens, Ark., below 29° (August 24, 1931) ..... .41
Stephens, Ark., 29° and above (August 24, 1931) ..... .44
Other fields ..... See gravity table

Note—Smackover, all grades, The Texas
(Continued on Page 94)

CRUDE OIL GRAVITY TABLE

	Kansas and Oklahoma 1	North and Central Texas 2	East Central Texas 3	Gray County, Texas 4	Carson and Hutchinson Counties, Texas 5	Salt Creek, Wyoming 6	North Louisiana and Arkansas 7	Gulf Coast (Tex. and La.) 8
Below 25 degrees	...	...	...	...	...	...	...	$ .70
25-25.9 degrees	...	...	...	...	...	...	...	.71
26-26.9 degrees	...	...	...	...	...	...	...	.72
27-27.9 degrees	...	...	...	...	...	...	...	.73
28-28.9 degrees	...	...	...	...	...	...	...	.74
Below 29 degrees	$ .61	$ .61	$ .61	...	...	$ .61	$ .46	...
29-29.9 degrees	.63	.63	.63	...	...	.63	.48	.75
30-30.9 degrees	.65	.65	.65	...	...	.65	.50	.76
31-31.9 degrees	.67	.67	.67	...	...	.67	.52	.77
32-32.9 degrees	.69	.69	.69	...	...	.69	.54	.78
33-33.9 degrees	.71	.71	.71	...	...	.71	.56	.79
34-34.9 degrees	.73	.73	.73	$ .61	$ .56	.73	.58	.80
35-35.9 degrees	.75	.75	.75	.63	.58	.75	.60	.81
36-36.9 degrees	.77	.77	.77	.65	.60	.77	.62	.82
37-37.9 degrees	.79	.79	.79	.67	.62	.79	.64	.83
38-38.9 degrees	.81	.81	.81	.69	.64	.79	.66	.84
39-39.9 degrees	.83	.83	.83	.71	.66	.79	.68	.85
40 degrees and over	.85	.85	.85	.73	.68	.79	.70	.86

The Magnolia Petroleum Co., which pays a flat price in every field in which it purchases oil, posted the following price notice: "Effective November 2, 1931, at 7 a.m. and until further notice our prices on crude oil will be as follows at the wells: North and North Central Texas, which includes only Burkburnett, Archer, Stephens, Henrietta, Electra, Comanche and Olden, 83 cents; Central Texas, which includes only Mexia, Wortham, Corsicana light, Panola County and Lytton Springs, 79 cents; East Texas district, 83 cents; West Texas, which includes Winkler, Crane, Upton, Howard, Glasscock and Mitchell Counties, 50 cents; Panhandle district of Texas: Gray County, 73 cents; Carson and Hutchinson Counties, 66 cents; Southwest Texas: Mirando, 75 cents; Darst Creek, 60 cents; Corsicana heavy and Luling, 49 cents. Oklahoma: Cushing, Yale, Oklahoma City, Morrison, Wewoka, Seminole, 83 cents; Cement, Duncan and Walters, 75 cents; Hewitt and Graham, 67 cents; Healdton, 52 cents.

The White Eagle Oil Corp., effective November 2, posted the following prices in Kansas: Group 1—Eastborough, Wright, Robbins, Greenwich, Lorena and North Greenwood Pools, 85 cents; Group 2—Eastman, Fox-Bush and Keighly, 83 cents; Group 3—Smock, Sluss, Leon-Weaver, Peabody and Rock, 81 cents; Group 3A—Ritz-Canton, 79 cents; Group 4—Urschell, Florence, Elbing, Nuttle-Koogler, 77 cents; Augusta, 77 cents; Group 5—Gelwick, 61 cents.

Column 1—Led by Continental Oil Co., effective November 2, and adopted by other purchasers on same day, excepting that the Carter Oil Co., Gypsy Oil Co. and Pure Oil Co. started their schedule at below 25 degrees, 53 cents; 25 degrees, 55 cents, with 2 cents added for each degree upward to 40 degrees and above at 85 cents.

Column 2—Led by Continental Oil Co., effective November 2, and followed on same day by other purchasers.

Column 3—Led by Humble Oil & Refining Co., effective November 2.

Column 4—Led by The Texas Company, November 2, followed by Humble Oil & Refining Co. same day.

Column 5—Led by The Texas Company, November 2, followed on same day by Humble Oil & Refining Co.

Column 6—Mid West Refining Co., November 2.

Column 7—The Texas Company, August 22; Gulf Refining Co., August 22; Standard Oil Co. of Louisiana, August 24; Louisiana Oil Refining Co., August 24.

Column 8—Led by The Texas Company, November 2, followed same day by the Humble Oil & Refining Co. and Gulf Pipe Line Co. Latter company's prices stop at 35 and above at 81 cents.

CALIFORNIA CRUDE OIL PRICES

STANDARD OIL CO. OF CALIFORNIA

For its current purchases of crude oil at the well (unless otherwise specified) the allowable crude oil produced in accordance with allocations made by the California Statewide Curtailment Committee, all gravities above those quoted take highest price offered in that field. Effective June 19, 1931, at 7 a.m.

Gravity	Signal Hill	Seal Beach, Alamitos Heights	Huntington Beach	Inglewood	Olinda-Brea Canon	Torrance	Richfield	Coyote Hills	Santa Fe Springs	Midway-Sunset, Elk Hills, Buena Vista Hills	Lost Hills
14-14.9	$ .65	$ .65	$ .65	$ .65	$ .65	$ .65	$ .65	$ .65	...	$ .55	$ .55
15-15.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
16-16.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
17-17.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
18-18.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
19-19.9	.65	.65	.65	.66	.65	.65	.65	.65	...	.55	.55
20-20.9	.65	.65	.65	.66	.65	.65	.65	.65	...	.55	.55
21-21.9	.65	.65	.65	.68	.67	.65	.66	.65	...	.55	.57
22-22.9	.65	.65	.66	.70	.68	.66	.68	.65	...	.56	.59
23-23.9	.67	.67	.68	.72	.70	.67	.70	.66	...	.58	.60
24-24.9	.69	.69	.70	.74	.72	.68	.72	.67	$ .65	.61	.62
25-25.9	.71	.71	.72	.76	.74	.70	.74	.69	.65	.64	.64
26-26.9	.73	.73	.74	...	.76	...	...	.71	.65	.66	.66
27-27.9	.75	.75	.76	...	.78	...	...	.73	.68	.68	.67
28-28.9	.77	...	...	...	.80	...	...	.75	.71	.71	.69
29-29.9	.79	...	...	...	...	...	...	.77	.73	.74	.71
30-30.9	.81	...	...	...	...	...	...	.79	.75	.76	.72
31-31.9	...	...	...	...	...	...	...	...	.78	...	...
32-32.9	...	...	...	...	...	...	...	...	.80	...	...
33-33.9	...	...	...	...	...	...	...	...	.83	...	...
34-34.9	...	...	...	...	...	...	...	...	.85	...	...
35-35.9	...	...	...	...	...	...	...	...	.87	...	...

Standard Oil Co. of California prices in other fields:
Wheeler Ridge—55 cents per barrel for all grades (14° to 25.9°).
Coalinga—55 cents for all grades from 14° to 24-24.9°; 57 cents for 25 gravity.
Newhall, McKittrick and Kern River—55 cents for all grades (14° to 19.9°).
Montebello—65 cents for all grades (14° to 25.9°).
Whittier and LaHabra—65 cents for all grades (14° to 22.9°).
Elwood Terrace, f.o.b. ship—33° to 33.9°, 79 cents; 34° to 34.9°, 81 cents; 35° to 35.9°, 84 cents; 36° and above, 87 cents.
Playa Del Rey—Prices subject to field gathering charge of 5 cents per barrel—19° to 19.9°, 65 cents; 20° to 20.9°, 65 cents; 21° to 21.9°, 66 cents; 22° to 22.9°, 67 cents; 23° to 23.9°, 68 cents; 24° to 24.9°, 67 cents; 25° and above, 68 cents.
(Continued on Page 102)

TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns Nov. 3

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Chicago	14.0	14.0	3.0	9.0
Decatur, Ill.	14.4	14.4	3.0	9.0
E. St. Louis	13.7	13.7	3.0	8.2
Joliet	14.4	14.4	3.0	9.0
Peoria	14.4	14.4	3.0	9.0
Quincy	14.2	14.2	3.0	8.8
Davenport, Ia.	14.5	12.5	3.0	9.3
Des Moines	13.4	13.4	3.0	8.0
Keokuk	14.5	14.5	3.0	6.3
Sioux City	14.1	14.1	3.0	8.9
Duluth, Minn.	15.5	15.5	3.0	9.9
Mankato	15.1	15.1	3.0	8.0
Minneapolis	13.4	13.4	3.0	9.9
La Crosse, Wis.	16.2	16.2	4.0	10.0
Milwaukee	15.1	15.1	4.0	8.9
Madison	15.3	15.3	4.0	9.1
Detroit, Mich.	14.5	14.5	3.0	10.7
Grand Rapids	14.7	14.7	3.0	10.6
Saginaw	14.9	14.9	3.0	10.8
Evansville, Ind.	15.1	15.1	4.0	9.9
Indianapolis	15.3	15.3	4.0	10.1
South Bend	15.4	15.4	4.0	8.0
Fargo, N. D.	16.9	16.9	3.0	11.9
Huron, S. D.	16.3	16.3	4.0	10.7
Sioux Falls	15.8	15.8	4.0	10.4
K. C., Mo.	13.9	13.9	3.0	7.6
Spr.ngfield*	13.9	13.9	3.0	8.5
St. Louis*	13.4	13.4	2.5	8.3
St. Joseph	11.4	9.4	3.0	7.5
Wichita, Kans.	12.8	12.8	3.0	7.8
Bartlesville, Ok.	13.0	16.0	5.0	7.0

*State tax 2 cents, remainder city tax.

A third grade of gasoline, "Stanolind Blue," is sold at all major points at a price 1½ cents or more below the price on the regular grade.

Effective April 15—Discounts on Q.D.A. on 1,000 gallons or more per month throughout territory; Red Crown Ethyl Gasoline, 3 cents off tank wagon price; Red Crown gasoline, 2½ cents off tank wagon price; Stanolind Blue gasoline, 1 cent off tank wagon price. On deliveries of 75,000 gallons or more each classification allowed 1 cent additional discount.

Discounts on resellers authorized agent's agreement: Same amounts as above except made off service station price instead of tank wagon price.

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Dallas, Tex.	13.0	14.0	4.0	8.0
Fort Worth	13.0	14.0	4.0	7.0
Houston	12.0	14.0	4.0	8.0
San Antonio	12 0	14.0	4.0	7.0
El Paso	14.0	16.0	4.0	10.0
Texarkana	12.0	14.0	4.0	8.0
Muskogee, Ok.	12.0	14.0	5.0	8.0
Okla. City	13.0	15.0	5.0	7.0
Tulsa	13.0	15.0	5.0	8.0
Ft. Smith, Ark.	*15.5	16.5	5.0	*11.0
Little Rock	*16.5	17.5	6.0	*11.0

One-cent rebate made from posted station prices to cash purchasers in Louisiana, Arkansas and Tennessee.

*Less 2 cents to dealers.

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Omaha	15.25	16.25	4.0	9.25
McCook	16.00	17.75	4.0	10.75
Norfolk	15.75	16.75	4.0	9.75
N. Platte	16.75	17.75	4.0	10.50
Scottsbluff	16.00	16.00	4.0	10.25

Note—Dealers' discount allowed as follows: Red Crown Ethyl, 3 cents off station price; Red Crown, 2½ cents off normal service station price; Nebraska Blue (third grade), 1 cent off normal service station price.

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Denver, Colo.	14.0	17 0	4.0	12 5
Pueblo	12.0	15.0	4.0	12.0
Grand Jctn.	17.0	20 0	4.0	14.5
Casper, Wyo.	14.0	17.0	4.0	10.0
Cheyenne	14.0	14.0	4.0	11.5
Butte, Mont.	17.0	20.0	5.0	16.0
Billings	20.0	20.0	5.0	14.5
Great Falls	20 0	22 0	5.0	16.0
Helena	20.0	23.0	5.0	16.0
Salt Lake, Utah	17.5	20.5	4.0	16.0
Albu'que, N. M.	17.0	20.0	6.0	14.0
Boise, Idaho	20.5	23.5	5.0	18.0
Twin Falls*	20 5	21.0	5.0	18.0

*2½-cent discount off tank wagon to dealers.

PACIFIC COAST TERRITORY

	Gasoline: Wh'ls'e price	Gasoline: Retail* price	Gasoline: Incl'ds tax of	Kero. tank wagon
Fresno	19.5	16.5	3.0	17.0
San Francisco	19.5	16.5	3.0	15.5
Los Angeles	19.0	16.0	3.0	15.5
Reno, Nev.	23.5	20.5	4.0	19.0
Portland, Ore.	21.0	18.0	4.0	16.5
Seattle, Wash.	22.0	19.0	5.0	16.5
Tacoma	22.0	19.0	5.0	16.5
Spokane	25.5	22.5	5.0	20.5
Phoenix, Ariz.	15.5	16.0	5.0	20.0

Above prices are at company's plant or depots as company does not operate stations. A 6-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 3 cents plus a 2-cent special temporary discount subject to withdrawal at any time.

*Retail prices posted by Standard Stations, Inc., a subsidiary.

PENNSYLVANIA-DELAWARE AND PART OF NEW ENGLAND

Atlantic Refining Co.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Pittsburgh, Pa.	*11.0	*12.0	...	11.0
Philadelphia	*10.0	*10.0	...	11.0
Scranton	*10.0	*11.0	...	11.0
Allentown	*10.0	*11.0	...	11.0
Altoona	*11.0	*12.0	...	11.0
Erie	*11.0	*12.0	...	11.0
Dover, Del.	14.0	15.0	3.0	11.0
Wilmington	14.0	15 0	3.0	11.0
Springfd, Mass.	13.0	14 0	3.0	10 0
Worcester	14.3	15.3	3.0	10.0
Boston	13.5	14.5	3.0	10.0
Providence, R.I.	12.1	13.1	2.0	10.0
Hartford, Conn.	13.0	14.0	2.0	10.0
New Haven	14.6	15.6	2.0	10.0

*Does not include tax of 3 cents in Pennsylvania. Pennsylvania tax is collected by the dealer and paid by him direct to the State. The above prices are subject to discounts to the dealers and to commercial accounts under contract for one year in accordance with Code of Ethics.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
N. Orleans, La.	14 5	14 5	6 0	12 0
Baton Rouge	15 5	16 0	5.0	12 0
Alexandria†	16.0	16.0	6.0	12.0
Lafayette*	16 5	17 0	6 0	12.0
Lake Charles*	15.0	15.0	6.0	12.0
Shreveport	16.0	16.5	5 0	12 0
Knoxville, Tenn.	19.0	19 5	6.0	13 5
Memphis	16 0	16 5	6 0	10.0
Chattanooga	18 5	19 0	6.0	12 0
Nashville	18 0	18 5	6 0	12 5
Bristol	18 5	19.0	6 0	14.0
Lt. Rock, Ark.	17.0	17 5	6 0	11 0

*Includes city tax of 1 cent. Louisiana kerosene prices include 1-cent state tax. New Orleans kerosene price also includes 1-cent city tax.

†Gasoline price at Alexandria includes 1-cent tax in parish of Rapides.

Two-cent discount off gasoline and kerosene tank wagon price to dealer and commercial accounts.

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Atl'tic City, N.J.	14.7	15.7	3.0	11 5
Newark	13.7	14.7	3.0	10.5
Annapolis, Md.	15.2	16.2	4.0	11.0
Baltimore	14.4	15.4	4.0	8.5
Cumberland	16.2	17.2	4.0	12.0
Wash'ton, D. C.	12.9	13.9	2.0	10.7
Danville, Va.	17.0	18.0	5.0	11.8
Norfolk	15.5	16.5	5.0	10.3
Petersburg	16.5	17.5	5.0	11.3
Richmond	15.9	16.9	5.0	10.7
Roanoke	17.2	18.2	5.0	12.0
Charles'n, W.Va.	15.7	16 7	4.0	11.5
Keyser	16.3	17.3	4.0	12.1
Parkersburg	14.4	15.4	4.0	10.2
Wheeling	15.6	16.6	4.0	11.4
Charlotte, N. C.	18 5	19 5	6.0	10 7
Hickory	18.8	19 8	6.0	12.6
Mount Airy	18.7	19.7	6.0	12.5
Raleigh	18.4	19.4	6.0	12.2
Salisbury	18.7	19.7	6.0	12.5
Charleston, S.C.	16.5	17.5	6.0	10.2
Columbia	18.4	19.4	6.0	12.2
Spartanburg	18.7	19.7	6.0	12.5

Two cents per gallon discount off retail tank wagon price of gasoline to dealers except Washington, D. C., and State of Maryland and New Jersey, where discount is 3 cents.

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Albany, N. Y.	16.6	17.6	2.0	15.6
New York*	15.3	15.3	2.0	14.3
Buffalo	15.8	15.8	2.0	14.8
Rochester	16.0	16.0	2.0	14.0
Syracuse	16.8	16.8	2.0	14.8
Boston, Mass.	16.5	16.5	3.0	13.5
Augusta, Me.	18.8	18.8	4.0	14.8
Manch'tr, N. H.	18.4	18.4	4.0	14.0
Burlington, Vt.	19.3	19.3	4.0	15.3

*Prices in steel barrels.

OHIO

Standard Oil Co. (Ohio)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Ohio points	15.0	16.0	4.0	*12.0

Dealers and commercial accounts 2 cents under tank wagon.

*Service station price 13 cents.

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Atlanta, Ga.	18.0	18.0	6 0	12.5
Augusta	19.0	20.0	6.0	14.0
Macon	19.0	19.0	6.0	12.0
Savannah	17.0	17.0	6.0	12.0
Birm'ham, Ala.	15.5	15.5	6.0	13.0
Mobile	17.5	17.5	5.0	10.0
Montgomery	19.0	19.0	5.0	13.5
Clarks'le, Miss.	18.0	20.0	5.0	13.5
Jackson	15.5	15.5	5.0	11.5
Natchez	18.0	20.0	5.0	13.5
Gulfport	16.0	16.0	5.0	13.5
Vicksburg	14.5	14.5	5.0	11.5
Jack'ville, Fla.	18.0	16.0	7.0	12.0
M'ami	17.0	18.0	7.0	13.0
Pensacola	20.0	21.0	7.0	13 0
Tampa	17.0	17.0	7.0	12.0
Lexington, Ky.	16.0	17.0	5.0	12.0
Covington	17.0	19.0	5.0	11.0
Louisville	15.0	16 0	5 0	10 0
Ashland	17.0	19.0	5.0	13.0
Paducah	18.0	18.0	5.0	11.0
Bowling Green	19.0	21.0	6.0	14.5
Corbin	18.0	19.0	5.0	15.0

A third grade "Kyso Green," is sold at a price generally 2 cents below the price on the regular grade.

In addition to the state tax of 4 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and one-half cent on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fourth cent on gasoline. To Pensacola, Montgomery and Birmingham state taxes add 1-cent levy tax. To Gulfport state tax add privilege tax of 2 cents. To Mobile state tax add 1-cent city tax and 2½ cents county tax.

Effective Apr'l 2 price to dealers 2 cents under posted tank wagon price.

NAPHTHA

	Tank wagon	Tank car
Oleum spirits	10.7	6.0
V.M.P. naphtha	12.7	7.5
Cleaners' naphtha	14 2	9.0
Stanisol	14.2	9.0

Tank wagon prices f.o.b. Chicago and Whiting, effective July 3.

STANOLIND FURNACE OIL IN CHICAGO

Effective July 1, prices f.o.b. Chicago, tank wagon prices: 1 to 99 gallons, 8 cents; 100 gallons or more, 6 cents.

Stanolex Fuel

Effective May 9, f.o.b. Chicago, tank wagon prices: 1 to 199 gallons, 7 cents; 200 gallons or more, 5 cents. S nclair met this by bringing down the price of its No. 3.

Fuel Oils

Chicago tank wagon prices (in lots of 400 gallons and over): 38-40 straw distillate, 6 cents; 32-36 gas oil (light zero), 5.5 cents; 32-36 gas oil (industrial), 5.25 cents; 28-30 zero fuel oil, 5 cents; 24-26 fuel oil, 4.25 cents; 18-22 fuel oil, 3.75 cents.

TANK WAGON CHANGES

Standard Oil Co. (Kentucky) reduced the gasoline tank wagon and station prices in Louisville, Ky., October 21 to 15 cents and 16 cents. Standard Oil Co. of New Jersey advanced the gasoline

(Continued on Page 102)

CRUDE OIL PRICES

(Continued from Page 93)

Company, August 22, 1931, 52 cents; Gulf Refining Co., August 22, 45 cents; Magnolia Petroleum Co. and Standard Oil of Louisiana, August 24, 45 cents. Urbana posting discontinued by Standard Oil Co. of Louisiana on August 24, 1931. Bellevue posted by Magnolia Petroleum Co.; Urania by H. L. Hunt, Inc.; Calion by Gulf Refining Co.; East El Dorado by Gulf Refining Co. and Magnolia Petroleum Co.; Stephens, Ark., by Louisiana Oil Refining Co. and Atlantic Oil Producing Co.

SOUTH CENTRAL AND SOUTHWEST TEXAS

Darst Creek (Nov. 2, 1931)‡	$ .55
Luling (Nov. 2, 1931)†	.45
Mirando (Nov. 2, 1931)†	.75
Pettus (Nov. 2, 1931)*	.85
Salt Flat (Nov. 2, 1931)*	.60
Thrall§	
Lytton Springs (Lockhart). See gravity table	
Dobrowolski‖	
Same as Mid-Continent gravity scale up to and including 38-38.9°.	
Somerset¶	
Same as Mid-Continent gravity scale up to and including 38-38.9°.	

‡The Texas Company. *Humble Oil & Refining Co. †Magnolia Petroleum Co. §Thrall prices same as North Central Texas less 19½ cents per cwt. freight. ¶Grayburg Oil & Refining Co., Pioneer Oil & Refining Co. and Texas Petroleum Products. ‖Pioneer Oil & Refining Co.

ROCKY MOUNTAIN STATES

Ohio Oil Co.-Midwest Refining Co.

Iles, light (Aug. 24, 1931)	$ .76
Iles, heavy (Aug. 24, 1931)	.53
Fort Collins (Aug. 24, 1931)	.61
Florence (Aug. 24, 1931)	.50
Wellington (Aug. 24, 1931)	.51
Dutton Creek (Aug. 24, 1931)	.60
Rock Creek, Wyo. (Nov. 3, 1931)	.85
Frannie, light (Aug. 24, 1931)	.53
Frannie, heavy (Aug. 24, 1931)	.43
Salt Creek.....Mid-Continent gravity table	
Big Muddy (Nov. 3, 1931)	.82
Grass Creek (Nov. 3, 1931)	1.05
Elk Basin (Nov. 3, 1931)	1.05
Lance Creek (Aug. 24, 1931)	1.05
Poison Spider (Mar. 5, 1931)	.70
Notches (Mar. 14, 1927)	.65
Hudson (June 2, 1931)	.65
Lander (Mar. 5, 1931)	.40
Rex Lake (Feb. 22, 1930)	1.10
Osage (Apr. 15, 1931)	.90
Lost Soldier (Aug. 25, 1931)	.54
Hamilton Dome (Mar. 14, 1927)	.85
Greybull (Aug. 24, 1931)	.90
Torchlight (Aug. 24, 1931)	.90
Cat Creek (Aug. 24, 1931)	.90
Condora (Aug. 24, 1931)	.80
Sunburst, Mont. (Nov. 3, 1931)	1.00
Hogback, N. Mex. (Aug. 24, 1931)	.80
Lea County, N. Mex. (Aug. 24, 1931)	.35
Border, Mont.	1.55
Red Coulee, Alberta	1.55
Dry Creek, Mont. (Aug. 24, 1931)	1.00
Maljamar (Aug. 22, 1931)	1.00
Artesia-Jackson (Aug. 22, 1931)	.35

Note—Salt Creek, Cat Creek, Dry Creek, Dallas-Derby, Hudson, Greybull and Hogback posted by Midwest Refining Co. and remainder by Ohio Oil Co. Both companies posted Grass Creek light and Elk Basin. Lost Soldier posted by Producers & Refiners Corp. Artesia, Jackson and Maljamar posted by Continental Oil Co. Border and Red Coulee posted by Imperial Refining Co. Ohio Oil Co. ceased posting Artesia on March 5, 1931. Lea County posted by Humble Oil & Refining Co. Fort Collins, Wellington, Orchard, Florence, Rattlesnake and Table Mesa by the Continental Oil Co. Osage posted by Arro Oil & Refining Co.

MIDDLE WESTERN STATES

Ohio Oil Co.

(Effective November 3, 1931)

Lima	$1.06
Wooster	1.15
Illinois	.95
Indiana	.80
Princeton	.95
Plymouth	Shut in
Western Kentucky	.90
Midland, Mich. (Oct. 9, 1931)*	.55
Dundee, Mich.†	
Same as Stanolind Crude Oil Purchasing Co.'s Mid-Continent gravity scale Upper and Lower Traverse Sands, Mich.†	
Same as Mid-Continent gravity scale	
Somerset, Ky. (Sept. 26, 1931)	.65
Hart County, Ky. (Nov. 1, 1931)§	.60

*Posted by Pure Oil Co. †Posted by Standard of Indiana for boat shipment. ‡Posted by Stoll Refining Co. Somerset, Ky., crude purchased by Ashland Refining, Ashland, Ky., and delivered through Cumberland Pipe Line.

MEXICO

Panuco*	$ .45

*F.o.b. ship, based on September transactions and exclusive of production and export taxes and bar dues.

CANADA

Ontario (Nov. 3, 1931):	
Petrolia*	$1.90
Oil Springs*	1.97
Alberta (Aug. 24, 1931):	
Turner Valley:†	
Crude oil 45-45.9	2.05
Crude oil 50 and above	2.65
Crude naphtha	3.12
Discolored naphtha	2.80

*Imperial Oil, Ltd. †Imperial Oil, Ltd. and Regal Oil & Refining Co.

Of Interest to Sales Departments

Gasoline Demands Show 5.4 Per Cent Gain in August

Consumption of gasoline increased 5.4 per cent during August, according to the tax returns of 46 states and the District of Columbia, and reported by the American Petroleum Institute. The total consumption shown by these states was 1,423,243,000 gallons compared with 1,350,682,000 gallons for the previous month. This represents an increase of 72,561,000 gallons.

Gasoline consumption in these states for the first eight months amounted to 9,322,721,000 gallons compared with 8,947,788,000 gallons for the first eight months of last year. This represents an increase of 4.2 per cent for the eight months.

The following tabulation shows the consumption by the respective states for August of this year and last year.

GASOLINE CONSUMPTION BY STATES, AUGUST, 1931

	Month of August	
	1931 Gallons	1930 Gallons
Alabama	14,608,000	15,717,000
Arizona	6,157,000	6,192,000
Arkansas	11,369,000	12,552,000
Colorado	18,819,000	18,360,000
Connecticut	24,650,000	22,997,000
Delaware	3,859,000	4,466,000
Dist. of Columbia	8,390,000	7,155,000
Florida	15,780,000	16,599,000
Georgia	21,037,000	21,188,000
Idaho	6,841,000	7,222,000
Illinois	102,187,000	98,236,000
Indiana	48,492,000	43,825,000
Iowa	43,374,000	37,614,000
Kansas	49,330,000	36,663,000
Kentucky	17,321,000	16,588,000
Louisiana	17,291,000	16,083,000
Maine	15,783,000	15,151,000
Maryland	18,125,000	17,971,000
Massachusetts	60,805,000	55,722,000
Michigan	85,079,000	79,736,000
Minnesota	49,809,000	43,132,000
Mississippi	11,686,000	12,560,000
Missouri	48,488,000	40,346,000
Montana	8,447,000	8,436,000
Nebraska	24,787,000	21,754,000
Nevada	2,529,000	1,976,000
New Hampshire	9,089,000	8,843,000
New Jersey	56,444,000	55,645,000
New Mexico	5,285,000	5,441,000
New York	169,019,000	157,629,000
North Carolina	21,185,000	20,469,000
North Dakota	14,650,000	17,399,000
Ohio	98,874,000	97,693,000
Oklahoma	27,353,000	29,446,000
Oregon	17,661,000	17,734,000
Rhode Island	10,674,000	9,247,000
South Carolina	11,169,000	10,976,000
South Dakota	12,674,000	15,710,000
Tennessee	19,353,000	21,111,000
Texas	80,555,000	74,055,000
Utah	5,825,000	5,895,000
Vermont	6,519,000	6,355,000
Virginia	24,245,000	22,887,000
Washington	27,270,000	27,599,000
West Virginia	14,947,000	14,620,000
Wisconsin	50,145,000	49,359,000
Wyoming	4,764,000	4,328,000
Total	1,423,243,000	1,350,682,000
Daily average	45,911,000	43,570,000
Increase over previous year:		
Amount of inc.	72,561,000	
Percentage inc. in daily ave.	5.4	
Pennsylvania		June 96,580,000

UNION WILL FURNISH NEEDS OF NICARAGUA

The Union Oil Co. of California has been awarded a contract to supply all the petroleum products required in Nicaragua over the next five years. The contract was closed with the Nicaraguan government by W. L. Standard, manager of general sales for the company, who has returned to Los Angeles after spending several months in the Central American country.

The Nicaraguan congress recently passed a law which was signed by the president effecting a state monopoly in the sale of petroleum products. As a result of the agreement, the Union company will shortly start the construction of a gasoline storage terminal at Corinto.

REPORT SHOWS EXPORTS FAR EXCEED IMPORTS

By Charles E. Kern

Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Oct. 31.—There was a decline in value of both total exports and imports of petroleum and products during the month of September and for the nine months ending with September compared with the same periods of the previous year according to the Monthly Summary of Exports and Imports of the Bureau of Foreign and Domestic Commerce.

During September domestic exports of petroleum and products were valued at $19,788,087 compared with $34,527,720 in September, 1930. During the nine months ending with September the value of these exports was $212,063,268 compared with $395,042,426 in the similar period of 1930.

The value of imports of petroleum and products in September was $7,184,293 compared with $13,157,230 in the previous September.

During the nine months ending with September these imports were valued at $74,569,877 compared with $113,110,648 in the same period of the previous year. Crude petroleum exports for September were 2,296,457 bbls. valued at $1,510,775, an increase in quantity and a decrease in value from 1,960,887 bbls. valued at $2,754,872 in September, 1930.

During the nine months' period 19,625,909 bbls. of crude valued at $15,820,228 were exported. This is also an increase in quantity and a decrease in value compared with the nine months' period of 1930 when 18,433,605 bbls. valued at $25,489,851 were exported.

At the same time imports of crude decreased at a still greater percentage, the quantity being 3,425,930 bbls. valued at $2,428,306 in September of this year, a decline from 5,807,988 bbls. valued at $6,203,615 in the same month of 1930. During the nine months' period imports of crude were 35,225,056 bbls. valued at $30,598,414 compared with 47,873,689 bbls. valued at $50,272,330 in the similar period of 1930. The decrease of imports for September from Colombia were pronounced, being from 1,449,000 bbls. in September, 1930, to 767,000 bbls. in the same month of this year.

Refined Oil Exports

Refined oils exported in September amounted to 7,009,469 bbls. valued at $17,077,436, a decrease from 8,262,235 bbls, valued at $20,788,492 exported in September, 1930.

Gasoline, naphtha and other finished light products exported in September totaled 3,074,226 bbls. valued at $7,176,862, a decrease in quantity from 3,912,452 bbls. and a still greater decrease in price from $16,483,969 in September, 1930. Imports of gasoline in September amounted to 1,256,461 bbls. valued at $3,159,382, a decrease from 1,538,275 bb's. valued at $5,289,612 in September, 1930, the value showing a far greater decrease than the quantity. We received 1,107,280 bbls. of this gasoline in September from The Netherland West Indies and 135,990 bbls. from Tobago.

Imports of paraffin and paraffin wax showed an increase from 912,843 pounds in September, 1930, to 1,670,770 pounds in September, 1931, but our exports of paraffin wax in September totaled 21,319,912 pounds, a decline from 30,170,115 pounds in September, 1930.

Kerosene exported in September totaled 1,056,602 bbls. compared with 1,349,070 bbls. exported in the same month of last year.

Gas and fuel oil exported in September totaled 2,217,218 bbls., compared with 2,323,702 bbls. in September, 1930.

Lubricating oil exports in September totaled 652,033 bbls. valued at $5,082,616, a decline from 667,066 bbls. valued at $6,334,857 in September, 1930.

Lubricating greases exported in the same month totaled 5,573,502 pounds valued at $270,531, a decline from 7,078,372 pounds valued at $410,932 in September, 1930.

ITALY LARGEST BUYER OF SOVIET UNION OIL

WASHINGTON, D. C., Nov. 2.—Russian exports of petroleum products from Black Sea ports during the first eight months of this year showed a slight increase over those for the same period of 1930. For the eight months ending August these exports totaled 2,945,449 tons, compared with 2,806,276 tons in the period of 1930.

Italy was Russia's best customer durthis period, taking 78,554 tons of fuel oil, 903 long tons of lubricating oil, 5,850 tons of kerosene, 16,288 tons of gasoline, or a total of 101,595 long tons.

England ranked second, taking 99,427 long tons, classified as follows: Fuel oil, 22,489 tons; lubricating oil, 12,924 tons; kerosene, 29,777 tons, and gasoline, 34,237 tons.

France took 37,427 tons of Russian products; Germany, 26,051 tons; India, 16,442 tons; Belgium, 23,655 tons; Spain, 14,466 tons; Turkey, 13,997 tons; Morocco, 1,556 tons; Sweden, 8,470 tons; Denmark, 8,374 tons; Egypt, 6,806 tons; Algiers, 2,368 tons, and all other countries, 12,415 tons.—C. E. K.

HUMBLE BUYS HOUSTON TERMINAL PROPERTIES

HOUSTON, Tex., Nov. 2.—Physical properties of the Houston Oil Terminal Co., including a 3,000-bbl. skimming and asphalt plant, storage and terminal facilities, have been purchased by the Humble Oil & Refining Co. These properties are located just east of Houston on the north side of the Houston Ship Channel. The transaction involved a consideration slightly more than $500,000.

The Houston Oil Terminal Co. has been engaged chiefly in the refining of fuel oil for bunkering ships and for local industrial use. The plant has been operated largely on heavy Mexican crude brought here by tanker. The company has been in existence over 10 years.

Officers of the terminal company include George L. H. Koehler, president, treasurer and general manager; A. E. Kerr, vice president; and W. M. Cleaves, secretary.

PROPOSE MONOPOLY

SANTIAGO, Chile, Nov. 2.—A bill has passed the Chilean house and will be voted on by the senate which provides for establishing an oil monopoly.

The bill grants to a concessionaire a monopoly in refining and marketing in Chile for 17 years. At the end of the 17 years the concessionaire's rights, including his refinery facilities, would revert to the state.

During the life of the monopoly the government would receive 75 per cent of its profits.

APPOINT RECEIVERS

LOS ANGELES, Nov. 3.—A petition for the appointment of a receiver in equity for the California United Gasoline Corp., National Gasoline Corp., Nevada-Tex Gasoline Corp., and California Gasoline Corp., was filed in the United States district court by trustees of the California Gasoline Co. and the American Natural Gasoline Corp.

APPOINT COMMITTEES ON GASOLINE TAX EVASIONS

CHICAGO, Nov. 2.—Gasoline tax evasion committees, modeled after the Illinois group headed by Frank V. Martinek of Standard Oil Co. of Indiana and composed of representatives of The Texas Company, Pure Oil Co., Sinclair Refining Co., and the marketing division of the American Petroleum Institute, have been organized in the states of Indiana, Michigan, Missouri and Kansas. Similar groups are to be formed in Wisconsin, Minnesota, North and South Dakota and Oklahoma, it was said.

Members of the states committees are as follows:

Michigan—R. S. Campbell, White Star Refining Co., chairman; P. A. Raupagh, Standard Oil Co. of Indiana; H. H. Ragle, president Michigan Oil Men's Association; P. H. Harrison, Sun Oil Co.; F. E. McSweeney, Shell Petroleum Corp.; W. F. Murdy, The Texas Company.

Missouri (eastern)—Carl Barker, Shell Petroleum Corp.; George Coldsnow, Standard Oil Co. of Indiana; F. W. Cordell, Phillips Petroleum Co.; W. L. Lund, Cities Service Oil Co.; W. E. Hamilton, Sinclair Refining Co.; George W. Zell, Barnsdall Refineries, Inc.; W. N. Weir, National Refining Co.; H. B. Latting, Skelly Oil Co.; L. V. Surtee, Mid-Continent Oil Co.; E. W. Brandy, The Texas Company, and Walter Ware, Lubrite Refining Corp.

Kansas and Western Missouri—Hunter Booth, Phillips Petroleum Co., chairman; Lane Dunagan, Phillips Petroleum Co.; R. H. Ericksen, Arrow Petroleum Co.; S. Curtis, Continental Oil Co.; F. W. Loring, Cities Service Refining Co.; Ed Speer, National Refining Co.; W. T. Atkins, Skelly Oil Co.; W. A. Riley, Barnsdall Refineries, Inc.; J. V. Dippel, Sinclair Refining Co.; R. W. Sexson, White Eagle Refining Co.; J. W. Wilson, Standard Oil Co. of Indiana, and George S. Allee, Missouri Oil Men's Association.

Indiana—H. L. Rauch, Indian Refining Co.; Sam T. Hurd, state code committee of American Petroleum Institute; Bruce Gafill, Gafill Oil Co.; T. Anda, Shell Petroleum Corp.; O. P. Epler, Lincoln Oil Refining Co.; F. H. Fillingham, Standard Oil Co. of Indiana, and L. V. Surtees, Mid-Continent Oil Co.

The chairmen of each of these groups will meet as a national gasoline tax evasion committee in Chicago November 9-10.

NAPHTHA NOT TAXED

AUGUSTA, Me., Nov. 2.—Naphtha sold for cleaning purposes is not subject to state tax according to an opinion given by the attorney general.

The sale of gasoline and benzol is always taxable, regardless of the use to which they are put, the opinion explains. On the other hand, the sale of kerosene and crude oil is always exempt.

"Unlike kerosene and crude oil, naphtha is taxable if sold to be used in the operation of an internal combustion engine, but unlike gasoline and benzol it is taxable only when so sold."

SPANISH MONOPOLY

WASHINGTON, Nov. 2.—The Spanish petroleum monopoly has contracted to take gasoline from the Russian government over a four-year period as follows: During 1931, 1,062,500 bbls. and 2,133,000 bbls. during the following three years.

Kerosense, gas, oil, lubricating oils and other products of petroleum will also be taken from Russia, all of which amounts to about 50 per cent of the estimated requirements of Spain.—C. E. K.

Oil Stocks Reflect Improved Outlook

Market Moves in Narrow Range With Leading Issues Supported on Recessions. New York Transit Halves Outstanding Capital

By A. E. Mockler

NEW YORK, Nov. 2.—Improved sentiment characterized trading in oil securities during the past week, and while prices continued to move within a rather restricted range, underlying sentiment appeared much better and shares of the leading companies were coming in for fair buying support on downward moves.

Professionals, who have hitherto rather ignored the oils in favor of rails, industrials, and other groups, are now giving petroleum securities more consideration. Oils, as a group, appear to have been more thoroughly liquidated and deflated than any of the other outstanding groups, and with the industry steadily bettering its position, from a statistical standpoint, the outlook for earnings during the coming year is much brighter.

A factor for 1932, it is believed, is the necessity for fairly large capital expenditures for plant improvement, faced by a majority of the oil units. These improvements are necessitated by recent changes in gasoline refining technique, making essential the installation of new high pressure stills at most refineries for the production of high octane number gasoline.

New York Transit

Directors of New York Transit Co. have recommended to stockholders a reduction in capital stock from $1,000,000 to $500,000, with a corresponding reduction from $10 to $5 in the par value of the company's stock. Shareholders will vote on the proposal at the regular annual meeting in January.

Approval of the capital reduction plan by stockholders, it is expected, will be followed by a cash distribution of $5 per share.

Buckeye Dividend

Buckeye Pipe Line Co. has declared the regular quarterly dividend of $1 per share, payable December 15 to stock of record November 20.

American Republics

American Republics Corp. and subsidiaries report for the September quarter net loss of $1,106,941 after charges and taxes, against net loss of $962,264 in the previous quarter and net loss of $104,031 in the September quarter last year. For the nine months ended September 30 net loss of $2,648,424, after charges and taxes, is reported, as compared with net loss of $57,455 in the comparable months last year.

Canadian Eagle

Directors of Canadian Eagle Oil Co., Ltd., have deferred action on the no par participating preferred dividend due at this time, pending a report on results for the full year 1931.

Mexican Eagle Oil, Ltd., directors have taken the same action.

General Asphalt's

General Asphalt Co. reports for the third quarter of 1931 earnings which more than covered the dividend requirements of 50 cents a share, or $206,666 on the 413,333 shares of capital stock outstanding during the period. This was a substantial improvement over the results for the first half of the year, during which period a net loss of $170,660 was shown.

The company's appeal to the British House of Lords against the decision rendered by the London Court of Appeals in Asphalt's suit against Anglo-Saxon Petroleum Co., Ltd., over royalty oil from the Vigas concession in Venezuela will come up for hearing next month. A decision favorable to General Asphalt would establish its rights to future royalty oil from the Vigas Concession, as well as an accounting for the oil already taken out by Anglo-Saxon, which is a Royal Dutch-Shell subsidiary.

Sunray

Federal Judge Franklin E. Kennamer, sitting in Tulsa, has granted the petition of J. Franklin Tausch of New Rochelle, N. Y., for a receivership for Sunray Oil Corp., a friendly suit. The petition asked receivership to prevent disorganization of the company and attachment of properties through suits filed by creditors. Clarence H. Wright, president of Sunray, was appointed receiver. The petition for receivership stated that the company has interest payments, a bond issue, secured notes and unsecured notes aggregating $1,516,000 falling due before December 2, next.

Louisiana Oil Refining

Louisiana Oil Refining Co. has declared the regular quarterly dividend of $1.62½ on the 6½ per cent preferred, payable November 16 to holders of record October 31.

Derby Oil

Derby Oil Co., subsidiary of Derby Oil & Refining Co., reports for the nine months ended September 30, last, net earnings of $22,510, after all charges, against net earnings of $540,361 in the corresponding period last year.

Indian Refining

Indian Refining Co. has notified the New York Stock Exchange of its intention to reduce the authorized common stock from 2,000,000 to 1,275,000 shares. The Texas Corporation controls Indian Refining, and the reduction in stock is reputedly for the purpose of solidifying the controlling interest.

Marcell Optimistic

Petroleum market conditions have shown considerable improvement, according to L. L. Marcell, president of White Eagle Oil Corp., and a director of Standard Oil Co. of New York. Low prices for gasoline will continue, however, in keeping with the economic situation, Mr. Marcell added.

Seaboard's Oil

Seaboard Oil Co. of Delaware (formerly Mexican Seaboard Oil Co.) will show net earnings of approximately $50,000, after all charges, for the September quarter, according to reports here. The betterment in the position of Seaboard Oil is due to recent completion of several wells in the North Dome at Kettleman Hills, where the company has a substantial royalty interest.

Colonial-Beacon Oil

Colonial-Beacon Oil Co. reports for the nine months ended September 30 net loss of $1,881,029 after interest, depreciation and inventory adjustments, comparing with net loss of $1,576,360 in the comparable months last year. For the September quarter net loss was $17,000, after the above charges, compared with net loss of $859,000 in the same quarter of 1930.

V.O.C.

Venezuela Oil Concessions, Ltd. (Royal Dutch-Shell subsidiary) has omitted the interim dividends on the preference and ordinary shares due at this time, due to unsettled conditions in the industry and the uncertain outlook.

Warner-Quinlan

Warner-Quinlan Co. reports for the first nine months of 1931 net loss of $120,162 after taxes and charges, against net loss of $285,000 in the corresponding months last year. Figures for the first nine months of the current year include nonoperating profit of $115,031. For the September quarter, net loss was $23,540, ac compared with net loss of $114,689 in the September quarter last year.

American Natural Gas

American Natural Gas Corp. reports for the 12 months ended June 30 net profit of $729,839, compared with $740,000 in the previous 12 months. Gross revenues were $10,026,334 against $10,978,232. Surplus after first and second preferred dividends was $225,074, against $326,557.

Amerada Corp.

Amerada Corp. reports Consolidated net loss of $489,835 for quarter ended September 30, compared with net loss of $536,450 in preceding quarter and with net income of $3,772,810 in 1930 quarter, including profit from sale of one-half interest in Kettleman Hills lease to Union Oil Co. of California, or $4.09 a share on 922,075 no par capital shares.

Standard of Indiana

Directors of Standard of Indiana voted 25 cents per share dividend payable December 15 to stockholders on record November 16.

Twenty Representative Stocks

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange and New York Curb, based on closing quotations for Wednesday, was as follows:

Feb. 25	29.33	July 1	22.32
Mar. 7	27.67	July 8	21.24
Mar. 11	26.53	July 15	19.79
Mar. 18	26.78	July 22	21.33
Mar. 25	26.85	July 29	20.63
Apr. 1	24.80	Aug. 5	20.80
Apr. 8	25.52	Aug. 12	21.00
Apr. 15	24.72	Aug. 19	24.25
Apr. 22	22.73	Aug. 26	23.26
Apr. 29	20.54	Sept. 2	22.30
May 6	20.74	Sept. 9	20.23
May 13	20.33	Sept. 16	18.39
May 20	19.25	Sept. 23	17.64
May 27	18.35	Sept. 30	15.33
June 3	18.00	Oct. 7	15.36
June 10	19.62	Oct. 14	16.41
June 17	19.23	Oct. 21	17.51
June 24	22.33	Oct. 28	16.80

Sun Oil

Sun Oil Co. has declared the regular quarterly dividends of 25 cents on the common, payable December 15 to stock of record November 25, and $1.50 on the preferred, payable December 1 to stock of record November 10. Year-end stock dividends of 9 per cent on the common stock were paid in 1930 and 1929.

Prairie Pipe Line

Prairie Pipe Line Co. and subsidiaries reported for the September quarter net profit of $342,000, equal to 9 cents a share, compared with $3,491,150, or 86 cents a share, in the third quarter last year.

Phillips Petroleum

Phillips Petroleum Co. reports for nine months ended September 30, 1931, a net loss of $2,410,253 after expenses, taxes, depreciation, depletion, etc. This compares with net profit of $7,664,768 in

(Continued on Page 103)

STANDARD OIL STOCKS ON NEW YORK CURB

Quotations Compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

(Complete record week ending Oct. 24)

1931 High	1931 Low	Week ended Oct. 24 Sales	Week ended Oct. 24 High	Week ended Oct. 24 Low	Close Oct. 23	Stocks—
1	⅛	No sales	..	..	..	Atlantic Lobos
16	6¼	200	7¾	7¾	..	Borne Scrymser
51	39	100	41	41	..	Buckeye Pipe Line
129½	88	200	90	90	..	Chesebrough Mfg.
3⅞	1⅝	1,700	1⅞	1¾	..	Creole Petroleum
39	20⅝	No sales	..	..	..	Cumberland Pipe Line
36	19	100	22	22	..	Eureka Pipe Line
3	1	No sales	..	..	..	Galena Signal Oil
72	47¾	500	53	50¼	49	Humble Oil & Refining
18¼	7⅞	14,600	10¼	9¼	9¾	Imperial Oil of Canada (new)
21⅛	5⅛	600	8¼	8	..	Indiana Pipe Line (new)
15½	7⅜	17,800	10⅜	9¼	10⅜	International Petroleum (new)
17½	8½	100	10	10	..	National Transit
14½	5⅞	2,100	8⅞	8	9	New York Transit
34¼	20	No sales	..	..	..	Northern Pipe Line
15½	6	No sales	..	..	..	Penn Mex Fuel
16⅞	3⅛	900	16⅞	16⅞	..	Solar Refining
23⅞	12	1,000	14½	14	14	South Penn Oil
17	9	No sales	..	..	..	Southern Pipe Line
42½	25	No sales	..	..	..	Southwest Pennsylvania Pipe Line
38½	15⅞	21,800	21½	20	20	Standard Oil of Indiana
23⅝	13¼	6,200	16½	15¼	15⅝	Standard Oil of Kentucky
36½	16½	100	21½	21½	..	Standard Oil of Nebraska
62½	35	400	41	40⅛	..	Standard Oil of Ohio
4½	2⅝	No sales	..	..	..	Swan-Finch Co.

	Outstanding capital	Par value	Div. rate	Last paid	1928 High	1928 Low	1929 High	1929 Low	1930 High	1930 Low
	499,448	N.P.	....	5-28-30	..	..	..	..	1	¾
	$1,000,000	$25	....	10-15-30	56½	44½	46½	25	25	11¾
	$10,000,000	$50	$1Q	12-15-31	76	53	74½	55	69	39⅝
	$3,000,000	$25	$1Q‡	9-30-31	161	117	210	130	184⅞	104¾
(ah)	5,977,872	N.P.	....	.....	17½	9½	11¾	5⅝	7⅞	3
	$1,500,000	$50	50cQ	6-15-31	114	67	75¾	40	65¾	20¼
	$5,000,000	$100	$1Q	8- 1-31	88	64½	70½	40	54¾	26
	$16,000,000	$100	....	.....	13	4¼	6½	3	7	2⅛
	$74,103,300	$25	50cQ	10- 1-31	114¾	59½	128	74⅛	119	57¼
(ah)	25,421,768	N.P.	12½cQ	9- 1-31	104	56¾	41	22	30	15
	$3,000,000	$10	25cQ	8-15-31	91⅞	74⅝	41⅞	26	41	14⅛
(ah)	14,247,088	N.P.	25cQ	9-15-31	55	35	30⅝	15	24	11⅜
	$6,362,500	$12.50	25cQ	9-15-31	32⅜	19⅜	25⅛	10⅛	22⅜	11½
	$1,000,000	$10	25cQ	10-15-31	75	38½	17½	10	21⅝	10⅛
	$2,000,000	$50	$2SA	7- 1-31	69	56½	63	41	54	26⅜
	$10,000,000	$25	50c	10-31-31	84	28	44½	20	32	12
	$4,000,000	$25	....	12-20-29	..	..	50	20	33	4⅛
	$30,000,000	$25	25cQ	9-30-31	71⅞	36¾	60¼	35⅛	45⅞	16⅛
	$1,000,000	$10	50cQ	9- 1-31	19	15	22½	13	20⅛	8⅝
	$1,750,000	$50	$1Q	10- 1-31	102	70	70	60	64	32
	$348,175,069	$25	25cQ	9-15-31	95⅞	70⅞	63	45	59⅞	30
	$25,654,516	$10	40cQ	9-30-31	179¾	122¼	46⅞	29	40½	18⅝
	$4,649,225	$25	50cQ	9-21-31	54⅞	39⅞	50¼	40	48⅞	34⅝
	$14,000,000	$25	62½cQ	10- 1-31	134	71	129	60	108½	43¾
	$861,466	$25	....	1-15-29	23¼	16	18	10	10	4

*Ex-dividend. †Unit of trading less than 100 shares. ‡Plus 50 cents extra.

INDEPENDENT OILS ON NEW YORK CURB

Quotations Compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

(Complete record week ending Oct. 24)

1931 High	1931 Low	Week ended Oct. 24 Sales	High	Low	Close Oct. 24	Stocks		Outstanding capital	Par value	Div. rate	Last paid	1928 High	1928 Low	1929 High	1929 Low	1930 High	1930 Low
1¾	¼	800	½	⅜	⅜	American Maracaibo	(sh)	700,000	N.P.	....	.....	9½	3⅛	8⅝	1⅛	4½	½
16⅞	6¼	200	8¾	8¾	..	British American Oil Corp.		1,311,321	N.P.	20cQ	10- 1-31	55	32¾	62	7⅞	23	13⅜
2⅜	½	400	⅝	½	..	Carib Syndicate		$131,250	25c	....	.....	4½	3⅞	4⅞	1	2¾	⅝
20¾	5¼	61,800	8	7⅜	7¼	Cities Service	(sh)	24,290,359	N.P.	30cA§	11- 1-31	90⅞	54	68⅛	20	44¼	13
84¾	35⅜	600	54⅜	53¼	54½	Cities Service pfd.	(sh)	1,500,000	N.P.	50cM	11- 1-31	103¼	94½	98¾	84	93⅞	78¼
½	⅛	1,500	⅛	⅛	..	Colombia Syndicate		$2,000,000	$1	....	.....	3¼	.76	2	½	¾	⅛
2¾	1⅜	100	1½	1½	..	Consolidated Royal		$5,527,875	$10	5cQ	10-25-31	8⅞	6¼	11⅛	2½	5⅞	2
⅝	⅛	No sales	..	..	..	Crown Central		.....	....	....	.....	..	..	..	..	..	..
5	2	1,000	2	2	2⅛	Darby Petroleum (new)		1,019,392	N.P.	....	10-15-30	33½	3¼	26	6½	21¾	4¼
6	1¾	200	2⅛	2⅛	..	Derby Oil & Refining	(sh)	500,000	N.P.	....	.....	2¼	1	11	2	11	2
40⅛	25	No sales	..	..	..	Derby Oil & Refining pfd.		48,500	N.P.	....	.....	21⅛	7½	44	20¾	60	30
75½	38	8,200	49¼	44⅛	45½	Gulf Oil Corp.	(sh)	4,504,921	$25	37½cQ	10- 1-31	165	101⅛	209	115	166⅞	58½
⅝	3/16	1,900	⅛	⅛	..	Intercontinental Petroleum		$5,682,000	$5	....	.....	3⅜	1	2⅞	⅜	1⅜	⅜
1⅞	½	No sales	..	..	..	Kirby Petroleum	(sh)	750,000	N.P.	....	.....	3	1¼	3⅝	1¼	3	⅞
1½	1/16	1,500	1/16	⅜	..	Leonard Oil & Development		$50,000,000	$25	....	.....	9⅜	5⅛	6⅛	1	4¾	½
6¾	2¾	No sales	..	..	..	Lion Oil & Refining	(sh)	250,000	N.P.	....	10-27-30	43⅞	20	38⅞	18	29	4⅞
25	7⅛	4,400	10	9¼	9	Lone Star Gas	(sh)	5,000,000	N.P.	22cQ	9-30-31	69⅛	48½	67⅞	28	55⅞	19⅝
½	⅛	6,000	¼	1/16	¼	Magdalena Syndicate	(sh)	850,000	$1	....	.....	1⅞	½	1¼	½	½	⅛
5	2⅝	No sales	..	..	..	Margay Oil Corp.		160,000	N.P.	....	7-10-30	48½	32	38½	14	16	3
4⅞	1½	No sales	..	..	..	Mexico-Ohio Oil Co.		500,000	N.P.	....	.....	8	2⅜	6⅜	2¼	7½	1⅝
½	⅛	No sales	..	..	..	Mountain & Gulf		$4,000,000	$1	....	4-15-31	1⅜	.76	1½	½	⅝	⅜
5⅞	2½	1,400	3⅝	3⅛	3⅛	Mountain Producers		$1,682,182	$10	25cQ	10- 1-31	28⅞	19½	22⅞	7	12⅛	3⅝
1½	½	300	½	½	..	New Bradford Oil		$1,095,291	$5	....	4-15-31	5⅝	4¼	5	2½	3½	1⅛
3	¾	1,500	1	⅞	1	New Mexico and Arizona		$1,000,000	$1	....	.....	11⅞	7⅛	9⅜	2¼	7¼	1½
3½	1	400	2½	1½	..	North Central Texas	(sh)	400,000	N.P.	....	9- 2-30	14¼	8½	18½	6⅛	11¼	2⅛
½	⅛	4,200	1/16	⅛	..	Pandem	(sh)	489,875	N.P.	....	.....	6	2⅛	3½	½	2½	¼
2	⅜	No sales	..	..	1	Pantapec Oil	(sh)	1,506,000	N.P.	....	.....	15⅝	8½	10½	1⅞	4⅜	⅞
3⅛	½	2,200	1⅛	1	..	Reiter-Foster	(sh)	388,584	N.P.	....	12- 2-29	12⅞	4⅛	8½	1⅛	5⅜	1
3	1	No sales	..	..	..	Ryan Consolidated	(sh)	500,000	N.P.	....	.....	12	4⅛	11	2	8⅝	2
1⅜	¼	No sales	..	..	..	Salt Creek Consolidated	(sh)	1,286,300	$10	....	4- 1-31	7¼	5½	5⅞	1⅞	2½	½
7¾	3¾	400	4¼	4	4	Salt Creek Producers	(sh)	1,496,859	$10	25c	11- 2-31	35	23⅛	25⅞	9	15¼	5¼
5¼	½	No sales	..	..	1/16	Sunray Oil	(sh)	1,163,185	$5	....	4-15-31	..	..	12	5⅝	10	2
1⅞	⅜	800	⅝	½	½	Venezuelan Petroleum	(sh)	755,090	$5	....	2-15-30	9⅛	4¾	6½	1¾	4½	⅝
3½	1⅛	No sales	..	..	..	Woodley Petroleum		$500,000	$1	....	3-31-29	8¼	4⅞	9½	2	5	⅛
2¼	¼	500	½	½	⅞	Y Oil & Gas		100,000	N.P.	....	.....	8⅜	2⅛	2⅞	½	2½	⅜

*Ex-dividend. †Unit of trading less than 100 shares. ‡Payable monthly and monthly stock dividend of one-half per cent. §Paid in lieu of regular cash dividend of 2 per cent.

TRANSACTIONS IN OIL SHARES ON NEW YORK STOCK EXCHANGE

Quotations Compiled by Francis, Bro. & Co., Members of the New York Stock Exchange and Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

(Complete record week ending Oct. 24)

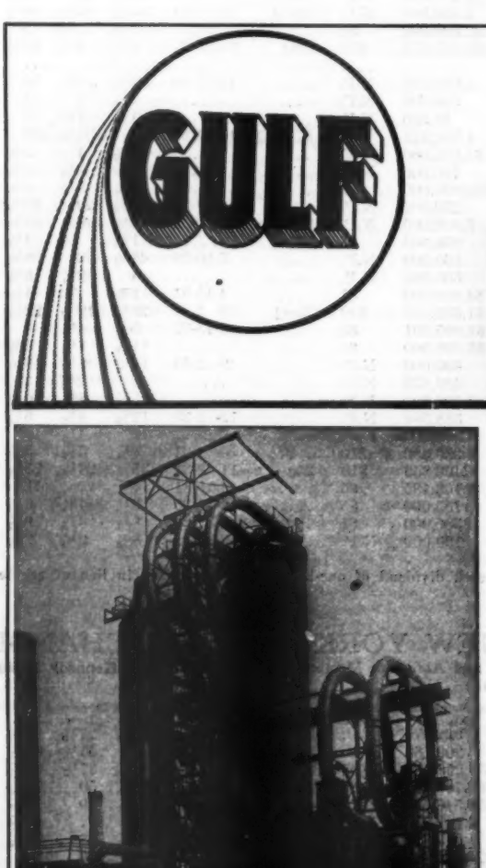
1931 High	1931 Low	Week ended Oct. 24 Sales	High	Low	Close Oct. 24	Stocks		Outstanding capital	Par value	Div. rate	Last paid	1928 High	1928 Low	1929 High	1929 Low	1930 High	1930 Low
23	13	700	15	14½	14½	Amerada Corp.	(sh)	922,075	N.P.	50cQ	10-30-31	43⅞	27⅛	42⅝	17½	31½	16½
12⅜	2¼	1,900	3⅛	2⅝	..	American Republics Corp.	(sh)	209,180	N.P.	....	12-31-30	85	51⅛	64¾	12½	37	5⅛
31	9¼	No sales	..	..	..	Associated Oil		$57,260,300	$25	....	6-30-31	53⅜	37½	47¼	34½	51	30
23⅝	9½	12,700	13	12	12	Atlantic Refining		$66,763,775	$25	25cQ	9-15-31	66⅜	50	77⅞	30	51⅜	16⅝
14½	4¾	18,500	6½	5⅞	6	Barnsdall Corp. A		$56,546,600	$25	....	5-11-31	54	20	49⅛	20	34	8⅝
12	5	21,200	7⅜	6½	6¾	Continental Oil of Delaware	(sh)	4,741,554	N.P.	....	12-15-27	..	..	47⅞	18	30½	7¾
47	9⅝	21,900	16⅞	13⅛	14⅜	General Asphalt	(sh)	413,333	N.P.	50cQ	9-15-31	94⅞	68	94¾	42¼	71½	22⅜
68½	19	17,700	31⅝	27	27¼	Houston Oil		$24,968,600	$100	....	10-17-30	167	79	109	26	116⅞	29¼
4⅝	1⅝	1,000	2⅜	2	..	Indian Refining		$12,564,070	$10	....	10- 1-30	39⅝	9	53	13⅛	17	2
4½	1⅜	200	1⅜	1⅜	1⅞	Louisiana Oil Refining	(sh)	1,190,063	N.P.	....	.....	19¾	9⅜	18	7	12	3½
3⅜	½	1,800	⅞	¾	..	Maracaibo Oil	(sh)	330,000	N.P.	....	.....	25½	12½	18½	5⅛	10⅜	1⅜
16¾	5	6,100	7⅛	6⅛	6¾	Mid-Continent Petroleum	(sh)	1,857,912	N.P.	....	2-16-31	44½	25⅛	39⅞	22⅛	32	11
19½	6½	22,500	8½	7½	7⅝	Ohio Oil	(sh)	6,648,052	N.P.	....	3-14-31	84	58½	79⅞	64¼	32	16
35⅛	20	No sales	..	..	..	Pan American P. & T.		$50,084,700	$50	40c	10-20-31	50⅞	38¼	69	40½	46½	42
36½	20	100	22	22	..	Pan American P. & T. "B"		$121,110,650	$50	40c	10-20-31	59⅞	37⅜	69¼	40½	67¼	30
4¼	¾	200	1	1	..	Panhandle P. & R.	(sh)	199,370	N.P.	....	.....	21¾	11½	15¼	3	12¾	1¾
20⅛	9½	120	9½	9½	..	Panhandle P. & R. pfd.		$2,564,400	$100	....	.....	108	70	76	47½	20	47½
16⅝	4¾	14,000	6¾	6	6	Phillips Petroleum	(sh)	2,593,075	N.P.	....	1- 2-31	53⅞	35¼	47	24¼	44⅜	11½
1½	½	800	½	½	..	Pierce Oil Corp.		$29,622,831	$25	....	.....	5¼	½	3⅜	1	2½	½
3⅜	⅞	3,500	1⅜	1	1⅛	Pierce Petroleum	(sh)	2,500,000	N.P.	....	2-16-31	7	3½	5⅞	½	7⅛	1⅛
20⅜	5½	2,700	7¾	6⅞	6¾	Prairie Oil & Gas		$80,848,000	$25	....	3-31-31	68	46	65⅜	40½	54	11¼
26½	7⅝	3,850	9⅞	8⅝	8⅞	Prairie Pipe Line		$101,250,000	$25	....	6-30-31	280	172	65	45	60	16⅝
6	1½	1,100	1⅞	1½	..	Producers & Refiners		$37,438,950	$50	....	9-15-23	29⅞	16	25⅞	4	11⅞	1
16	4¼	110	4⅞	4¼	..	Producers & Refiners pfd.		$2,845,350	$50	....	5- 4-25	49⅝	41	46⅜	25½	40	11½
11⅞	5	4,900	6⅛	5⅝	5⅞	Pure Oil		$75,959,250	$25	....	9- 1-30	31⅝	19	30¾	20	27¼	7⅝
6⅜	⅞	900	1	⅞	⅞	Richfield Oil (new)		$52,410,875	N.P.	....	.....	56	23	49⅝	20	9¾	4⅛
10¼	2⅛	12,300	4⅛	3⅜	3½	Rio Grande Oil	(sh)	1,236,270	N.P.	....	7-25-30	37½	32	42½	15	25⅜	5
42⅝	13½	5,600	20⅝	19½	16⅝	Royal Dutch N. Y.	(sh)	611,303	....	$0.938	8- 4-31	64	44⅝	64	43⅛	56½	36⅞
20¾	5½	22,900	9¼	7¾	8	Seaboard Oil of Delaware (Mex. Seab.)	(sh)	1,244,383	N.P.	....	10- 1-24	72	4⅝	59⅜	8¼	37	9¾
34	9¾	318	14	12	..	Shell Transport & Trading Co.		£23,985,000	£1	$0.966	7- 6-31	47⅞	41⅜	51½	40⅝	48⅜	26
10¼	3¼	7,100	4⅝	4	4	Shell Union Oil	(sh)	13,066,497	N.P.	....	6-30-30	39¼	23¼	31⅜	19	25½	5⅛
11	4¾	3,300	6¼	5¼	5	Simms Petroleum		$8,353,620	$20	....	9-15-30	27½	18⅛	40⅛	15	37	5⅝
15⅞	5½	38,800	7¼	6½	6¾	Sinclair Consolidated	(sh)	5,500,000	N.P.	....	4-15-31	46¾	17⅝	45	21	32	9¾
103	77	200	87½	86½	..	Sinclair Consolidated pfd.		$16,025,250	$100	$2Q	11-14-31	110	102½	111	103	112¼	86
12⅞	3⅛	1,700	4¾	4	4⅛	Skelly Oil		$27,441,250	$25	....	12-15-30	42⅝	25	40½	28	12	10⅛
21	21⅛	37,600	14⅞	13¾	14	Socony-Vacuum	(sh)	31,923,072	$25	40cQ	9-15-31	..	..	..	..	..	..
51¾	28⅛	28,700	34½	31¼	31¾	Standard of California	(sh)	12,594,098	N.P.	62½cQ	9-15-31	80	63	81⅞	51½	75	42½
19	8¼	2,200	10	9½	10	Standard of Kansas		$8,000,000	$25	....	3-16-31	37¾	15	33¾	18	49	14⅜
52½	28¼	58,000	34⅜	31⅝	31¾	Standard Oil of New Jersey		$634,999,200	$25	25cQ§	9-15-31	59⅜	37¾	83	49	84⅞	32½
45¾	26¾	200	32½	31⅛	..	Sun Oil	(sh)	1,416,869	N.P.	25cQ	9-15-31	77	31½	68⅜	55	70	39
1¾	½	300	¾	⅝	..	Superior Oil Corp.	(sh)	766,979	N.P.	....	12-20-30	..	..	24	5¼	9⅜	¾
36¼	15	22,800	19½	18⅜	18⅞	The Texas Corporation		$246,204,900	$25	50cQ	10- 1-31	74⅜	50	71⅞	50	60½	28¾
6½	2½	2,700	3½	3	2⅞	Texas Pacific Coal & Oil Co.		$9,304,890	$10	....	12-31-29	26⅝	12½	23⅞	9½	14½	4
18	10½	No sales	..	..	..	Tide Water Oil	(sh)	2,191,759	N.P.	15cQ	6-30-31	41½	19⅝	40	14	31	13
83	35	300	40	38	..	Tide Water Oil pfd.	(sh)	19,947,000	N.P.	$1.25Q	11-16-31	100⅛	86	97½	85⅛	94⅞	71
9	3½	4,800	4⅛	3⅝	3¾	Tide Water Associated	(sh)	5,560,424	N.P.	....	2-16-31	25	14¾	23½	10	17¾	5⅞
68	20½	1,100	27	26	24½	Tide Water Associated pfd.		$73,284,500	....	$1.50Q	10- 1-31	..	..	90⅞	74⅛	89¾	55
26⅝	11¾	10,700	16⅞	15	15	Union Oil of California		$104,342,375	$25	50cQ	11-10-31	58	42⅜	57	42⅛	50	10⅛
25⅞	18½	1,300	19	18½	18½	Union Tank Car	(sh)	1,254,048	$100	40cQ	9- 1-31	128⅛	110	163¾	121⅞	38½	23
7⅜	1	300	1½	1½	1½	Warner-Quinlan	(sh)	632,948	N.P.	....	7- 1-30	44⅞	26	42⅞	15	27	4¼
9⅜	3	700	3⅝	3½	3⅞	Wilcox Oil & Gas	(sh)	428,907	N.P.	....	5-10-28	..	..	29¾	12⅞	21	6½

*Ex-dividend. †Unit of trading less than 100 shares. ‡Plus extra dividend of 25 cents.

In comparing highs and lows for the several years in the three tables, it will be necessary to take into consideration cases where there have been stock split-ups.

GULF

Modern Methods Make Modern Gulf Products



the largest Atmospheric-Vacuum Still ever built.

Paraffine and Coastal Crudes

Gasoline · Lubricating Oils

Naphtha · Gas · Oils

Wax · Petroleum Coke

Cylinder · Engine · Cordage

GULF REFINING COMPANY

General Sales Offices: PITTSBURGH, PA.

INTERSTATE COMPACTS VITAL SAYS AMES

(Continued from Page 14)

program and in co-ordination, the board believes it would be worth while to renew discussion with the state authorities of the three or four principal oil-producing states, particularly to learn if it is not possible for them to enter upon an interstate compact under the provisions of the Constitution authorizing such compacts to which the Federal Government through congressional action would be a party . . ."

Interstate Co-operation

In the early part of this year the governor of the principal oil-producing states recognized the necessity for interstate co-operation and created the Oil States Advisory Committee which is now studying the subject of an interstate agreement or compact.

In the meantime, however, the necessity for such action became urgent. As I have previously said, Oklahoma has for several years exercised a very intelligent control over its production, but has suffered from lack of similar control in other areas. The following illustrates the point: In October, 1930, 36 gravity oil in Oklahoma was selling for $1.29 per barrel and Oklahoma was holding its flush areas under control. The East Texas Pool was discovered at that time and that State failed to control its development. The result was a wild orgy of drilling and by July, 1931, the production of the East Texas Pool had risen from nothing in September, 1930, to more than 800,000 bbls. per day. There was an ample supply of crude oil prior to the discovery of the East Texas Pool and the addition of these 800,000 bbls. broke down the price structure so that 36 gravity oil in Oklahoma in July, 1931, had fallen from $1.29 per barrel to 18 cents per barrel, and this despite the fact that during the entire period Oklahoma had not increased its own production. This price was ruinous to the producers and was depriving the State of its legitimate revenues from royalties and production taxes. The governor of Oklahoma thereupon resorted to the unprecedented expedient of declaring martial law in the flush pools of Oklahoma and ordering the National Guard to shut in their production. Soon afterward the governor of Texas declared martial law in the East Texas area and ordered the National Guard to shut in that production. The result was an advance in the price from 18 cents to 68 cents. This, however, is still below the cost of production, which averages $1.10 per barrel, according to the findings of the United States Traffic Commission.

Three-State Agreement

While this acute situation existed conferences were held between representatives of the governors and enforcement bodies of Kansas, Oklahoma and Texas which resulted in the following agreement:

"The governors of the States of Texas, Oklahoma and Kansas, and the regulatory commissions of those States, viz, the Railroad Commission of Texas, the Corporation Commission of Oklahoma, and the Public Service Commission of Kansas, having jurisdiction over the conservation of crude petroleum and natural gas, in joint meeting at the state capital, Austin, Tex., September 18, 1931, after having considered the world oil stabilization program, submitted and approved at the Oklahoma City, Okla., Oil Stabilization Conference, September 11, 1931, hereby record our hearty approval of the general program and purpose of this conference, in so far as the laws of our respective states permit.

"In like manner, we endorse the effort to limitthe maximum production to the amounts recommended for the three states, to-wit: Texas, 902,000 bbls.; Oklahoma, 546,000 bbls.; and Kansas, 110,000 bbls., of crude petroleum daily, for the remainder of the year, 1931, and pledge ourselves to continue thereafter to cooperate to this end to the extent of our ability.

"We take this action in the belief that such program will tend to prevent physical waste and preserve our mineral resources to the people of the states we represent for our own generation and posterity."

Martial Law

This agreement is now being performed by these three states, although in both Oklahoma and Texas martial law is still in effect and the production is being regulated by orders of the governors as well as by the regulatory bodies. A peculiar situation has resulted. In Texas a Federal district judge has granted a temporary restraining order pending a hearing before three judges restraining the public officers of the state from enforcing the orders of the commission and of the governor, and under this temporary order, wells of the plaintiffs were opened. The governor countered by ordering the National Guard to ignore the restraining order and close the wells and the soldiers have obeyed the order of the governor. What the outcome will be is not yet disclosed.

That the governors have usurped power must be admitted; that they have done so in order to protect a basic natural resource of their states must be admitted; that they have demonstrated the necessity for an interstate agreement must be admitted; that their action has met with general public support must be admitted. This indicates the gravity of the situation and emphasizes the necessity of substituting an interstate agreement enacted according to constitutional procedure for the informal agreement above quoted, enacted under the protection of bayonets and supported by martial law. If we desire orderly government administered by civil officers under the protection of constitutional guarantees, the principal oil-producing states should now without delay enter into an interstate agreement subject to the approval of Congress. Texas, Oklahoma and the adjoining states, from an oil-producing standpoint, constitute an economic unit. Conditions in either one of these states bear directly upon the others. In some cases the same oil pool is partly in one state and partly in another. The artificial boundaries which separate these states do not delimit separate economic units. It is perfectly obvious, therefore, that the laws of these states should be uniform and that they should be uniformly administered, and that there should be adequate legal machinery for legal co-operation between these states.

Interstate Agreement Needed

The obvious answer to the problem of overproduction, therefore, is a carefully prepared interstate agreement between the principal oil-producing states enacted according to constitutional form.

But this conference on law and business is directed especially towards the antitrust laws and I must not close this paper without reference to them. It is only in connection with the antitrust laws that the Federal Government plays an important part in the petroleum industry. It makes no attack upon our Federal antitrust laws. They are based upon the sound principles that the American people are opposed to and will not tolerate monopoly, but that they intend to preserve individual initiative and independence. While these principles are sound and legislation should harmonize with them, questions arise under our antitrust laws which should be quickly settled. The petroleum industry affords illustrations.

The refining capacity of the United States is approximately 4,000,000 bbls. per day while the refining requirements do not exceed 2,400,000 bbls. About a year ago the Federal Oil Conservation Board appointed an economics committee to make a study of the probable future gasoline requirements for a six-month period. This committee was composed in part of government employes and in part of independent petroleum economists. The committee reported to the Federal Oil Conservation Board, which, in turn, released its report for consideration by the annual meeting of the American Petroleum Institute. The report was in harmony with that of the economics committee of the Institute and outlined a program which ought to be followed by the refining industry for the approaching six-month period.

An Anomalous Condition

Would an agreement between the refiners to limit their output to the quantity stated have been a violation of the antitrust laws? The program was one suggested by the Federal Oil Conservation Board. Could the industry under these circumstances agree to abide by the program? The antitrust laws do not condemn all agreements but only those which are unreasonable restraints of trade. Would such an agreement have been an unreasonable restraint of trade? The time involved was for a six-month period. The subject involved was balancing production and consumption. The formula was one prescribed by the Federal Oil Conservation Board. Certainly some reasonable men would believe that an agreement in conformity with this program would not have been an unreasonable restraint of trade, but in view of the uncertainty of the law, the agreement was not made, its validity could not have been tested by a civil suit during the six-month period, and therefore, if the attorney general had deemed it unlawful, his only practicable remedy would have been an indictment. Such an anomalous situation should not exist.

Our antitrust laws at present interfere with legitimate economic development. This interference is not because of the substance of the law, but because of the uncertainty in the minds of many honest and intelligent men. This uncertainty could be removed by the simple expedient of providing some Federal agency which would have authority to give approval to proposed agreements when, in the opinion of such agency, the agreements are not in violation of the law. Such an agency should be created.

There should be harmony between the law and the welfare of an industry. Yet the welfare of the petroleum industry is hindered instead of helped by the law. There is insufficient restraint upon the production of crude oil and excessive restraint upon the distribution of the products. The individual is permitted to threaten the welfare of the entiré group by unrestrained drilling, but the group is not permitted by concert of action to protect itself against this threat. This maladjustment between the law and the facts is worthy of the serious attention of our lawmakers.

SHERMAN LAW AN ECONOMIC EMPEDIMENT

(Continued from Page 16)

operatively are believed or feared to be prohibited by the Sherman law. Despite excess stocks and overproduction, the refineries continue to operate. Many are running at a return no better than the out-of-pocket cost. They find it better to operate though the overcrowded market affords them no return on the investment and not even a return of depreciation. Ultimately that means bankruptcy. Given the right to combine, excess refinery capacity could be restricted to market demand and a reasonable price secured, allowing a fair return. The Sherman law, in this aspect, is in direct opposition to the economic law of supply and demand. The law enforced competition which the statute compels results in the creation of an excess of supply that bears no relation to demand. The surplus is waste.

No One Makes Profit

We need no economist to tell us what free competition has done to the oil, the copper, the coal, the lumber and the textile industries. We have heard the figures. We know that under law enforced competition no one makes a profit, and while larger units can sustain losses over a period of time, the sheriff knocks at many a door.

The disastrous operation of our antitrust laws is specifically illustrated in the situation that developed in California in 1930. A great overproduction of crude oil and resulting excess of gasoline there, as elsewhere in the United States demoralized the market and seriously threatened the smaller refineries. A contract between the various refining companies, large and small, designed to relieve the weaker companies of their surplus and to stabilize the price of gasoline in California was held to affect interstate commerce and to be violative of the federal antitrust laws. It was set aside. The larger companies discontinued purchases of the smaller companies' excess gasoline, the latter dumped their surplus on the market and the industry was plunged into a ruthless price war which resulted in an estimated loss of more than $30,000,000. No company, major or independent, was doing business at a profit. The price war threatened the very existence of independent refining companies having 60,000 stockholders, an investment exceeding $100,000,000, employes numbering approximately 10,000, and an annual expenditure exceeding $150,000,000. Many of them were ruined, their employes thrown out of employment, dividends discontinued and refineries closed. The purchasing power of the public was reduced and business in general suffered. Today many oil refining companies in California are in receivers' hands. Of these one is a so-called major company; the others are so-called independents. Limitation of refinery output, price stabilization under agreements fixing fair prices probably would have obviated these consequences. But the antitrust laws forbade, and the public interest suffered. Competition has

THE OIL MAN'S CALENDAR

NOVEMBER

4—Slatesville, N. C., North Carolina Independent Oil Jobbers Association.

6-7—Seattle, Wash., second annual convention, Northwest Oil and Gas Association.

10—Chicago, Ill., Oil States Advisory Committee.

10-12—Chicago, Ill., twelfth annual meeting, American Petroleum Institute, Stevens Hotel.

16-21—Pittsburgh, Pa., third International Conference on Bituminous Coal, Carnegie Institute.

30-Dec. 4—New York, N. Y., annual meeting, American Society of Mechanical Engineers.

DECEMBER

2-3—Indianapolis, Ind., Indiana Petroleum Association, Hotel Severin.

7-12—Atlantic City, N. J., trade show, motor and equipment—National Standard Parts Association.

9-11—Atlantic City, N. J., American Institute of Chemical Engineers.

9-11 — Omaha, Neb., Nebraska Petroleum Marketers, Hotel Paxton.

28-31—Tulsa, Okla., Geological Society of America, Mayo Hotel.

1932

JANUARY

9-15—Detroit, Mich., convention and road show, American Road Builders' Association, Airport Building.

9-16—New York, National Automobile Show.

11-12—Fargo, N. D., North Dakota Division, Northwest Petroleum Association, Waldorf Hotel.

25-29 — Detroit, Mich., annual meeting, Society of Automotive Engineers.

30-Feb. 6—Chicago, Ill., National Automobile Show.

FEBRUARY

9 — Louisville, Ky., Kentucky Petroleum Marketers Association, Brown Hotel.

MARCH

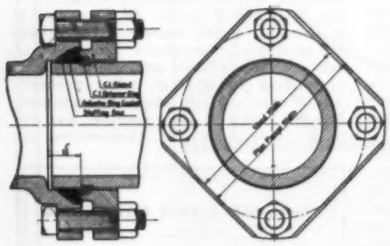
17-19 — Oklahoma City, Okla., American Association of Petroleum Geologists.

APRIL

11-16—Boston, Mass., ninth annual convention, American Oil Burner Association.

21-22—Cleveland, Ohio, semiannual meeting, National Petroleum Association, Hotel Cleveland.

Square Flange SIMPLEX Cast Iron CONDENSER PIPING Saves Coil Space



Cross-section of assembled joint, Simplex Cast Iron Condenser Piping. Maximum laying lengths furnished as follows: 2" and 2½" pipe, 5 feet; 3" pipe, 12 feet; 4" and 6" pipe, 16 feet. Lengths up to 40 feet may be furnished by Acipco Fusion Jointing before shipment. All pipe designed and furnished for a safe working pressure up to 150 pounds per sq. in. Heavier or lighter pipe can be furnished to your specifications.

YOU get the maximum amount of condensing and cooling area in the smallest possible space when you use Square Flange Simplex Cast Iron Condenser Piping. The size and shape of the flange permits space savings as high as 50 per cent or even more, depending on design of coils. Only the exterior of the flange has been changed. The pipe is the same dependable Simplex — strong, tough cast iron pipe that resists corrosion both inside and out; equipped with the Simplex Joint, which, provided with Acipco Improved Asbestos Gaskets, remains bottle-tight while permitting maximum deflection and longitudinal expansion and contraction in the coil. The gaskets are especially designed to withstand the deteriorative effect of refinery condensates. Let us send you a complimentary copy of our catalog, "Square Flange Simplex Condenser Piping," and quote you on your next pipe requirements.

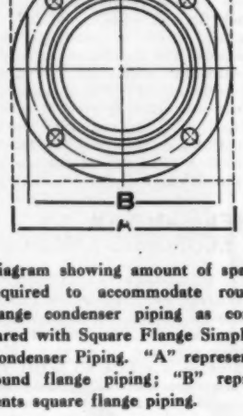


Diagram showing amount of space required to accommodate round flange condenser piping as compared with Square Flange Simplex Condenser Piping. "A" represents round flange piping; "B" represents square flange piping.

AMERICAN
CAST IRON PIPE COMPANY
BIRMINGHAM, ALABAMA

SAN FRANCISCO DALLAS NEW YORK CITY
CHICAGO MINNEAPOLIS SEATTLE
KANSAS CITY LOS ANGELES CLEVELAND

1131R

been maintained to the final extinction of those units that cannot survive the mad scramble. And the ultimate effect must be the precise opposite of "maintenance of the maximum of competition compatible with sound economics," which the public interest demands.

Fall of 1930 Another Illustration

Another illustration of the repressive operation of the law occurred in the fall of 1930. The appalling rate of production of crude oil and its derivatives, the tremendous stocks above ground and the obvious riot of waste that was impending caused the Federal Oil Conservation Board concern, and at its instigation a technical committee of trained men made a survey and report which was presented to the American Petroleum Institute in November, 1930, and to which the attention of the directors of the institute was invited. The institute's technical committee had made a contemporaneous survey and reached almost identical conclusions. Both committees reported that the existing rate of production of crude oil and manufacture of gasoline would result in further surplus stocks that would continue to increase the waste of our petroleum resources. The industry was advised that on March 31, 1931, the gasoline stocks should not exceed 45,000,000 bbls. and that stocks of 40,000,000 would be sufficient.

Curtailment of both production of crude oil and manufacture of gasoline was recommended and percentages fixed for various areas of the United States. Forty or 50 of the leaders of this great industry, in meeting assembled, received the reports of these committees—the government report and their own report—and without dissent approved their conclusions. Yet, because of the antitrust laws, on the advice of their counsel, they found themselves helpless to follow the unquestionably wise program of these committees, or to enter into agreements that would make it effective. The race for production of crude oil, and competition in the manufacture of gasoline went merrily on.

These matters are ordered differently in other countries and other jurisdictions. In 1913 the Privy Council of England considered an Australian agreement between coal operators allocating the output of mines and fixing prices. The agreement had followed a campaign of cutthroat competition. The attorney-general attacked it, but the high court said:

"It can never, in their lordship's opinion, be of real benefit to the consumers of coal that colliery proprietors should carry on their business at a loss, or that any profit they make should depend on the miners' wages being reduced to a minimum. Where these conditions prevail, the less remunerative collieries will be closed down, there will be great loss of capital, miners will be thrown out of employment, less coal will be produced, and prices will consequently rise until it becomes possible to reopen the closed collieries or open other seams. The consumers of coal will lose in the long run if the colliery proprietors do not make fair profits or the miners do not receive fair wages. There is in this respect a solidarity of interest between all members of the public."

Subject for Cartel

There is no question that in Germany the petroleum industry would be an immediate subject for a cartel under the German law. The cartel has been defined in Germany by the highest tribunal as an association of the members of an industry for the purpose of protecting the industry against the disadvantages of price cutting. The cartels function as mutual organizations.

Rush Butler has pointed to two fundamental features of our antitrust laws which give them a baneful effect far beyond their theoretical scope, namely, (1) the indefiniteness of the prohibition of unreasonable restraints (for what lawyer will presume to forecast the views of the Supreme Court or the majority of the court on that question?), (2) the provisions for criminal punishment for violation of the act.

Granting that all that the act prohibits should be prohibited; assuming that under the rule of reason the statute interdicts only unreasonable restraints; the difficulty is that in practice the statute checks many transactions which on final adjudication would not fall within the prohibition of the law. Business doesn't know. The Department of Justice is not authorized to advise. The Federal Trade Commission is powerless to decide. And agreements to end ruinous competition and to control untoward waste, which the chaotic condition of our business makes imperative, proposals to control the senseless waste and overproduction of irreplaceable natural resources, are abandoned, often not because they infringe the law, but because of the fear that they may violate it. And so the law operates to check not only that which should not be done, but that which should, and the public as well as business suffers. Business may not need relief from the law so much as it needs relief from what Mr. Butler so aptly described as the power beyond the law—the fear that the Sherman law prohibits more than it actually prohibits.

TUNNEL FOR PIPE LINE BUILT UNDER CHANNEL

(Continued from Page 15)

might be expected in any other such project. The first work consisted of sinking two large vertical shafts, which was followed by the excavation of the tunnel connecting the shafts. The soft nature of the soil, however, necessitated that all concrete work be done immediately behind any excavations.

Each of the vertical shafts has an inside diameter of 10 feet with an 18-inch reinforced concrete wall. The shaft on the south or refinery side is 82 deep deep from the top of the ground and the other 77 feet, providing a slight slope in the tunnel for drainage. As the top of the south side shaft has an elevation of 16 feet above mean low tide and that of the north shaft 12 feet, the bottom of the shaft and the tunnel is 66 feet below mean low tide.

The large concrete cylinders forming the walls of the vertical shafts were sunk by their own weight, the first being removed from the inside as the columns sank. The concrete walls were constructed in two-foot sections, in special forms, and section after section was added and tied into the top of each cylinder until the shafts were sunk to the desired depths.

Cutting edges for the shafts were provided by a band of boiler plate fastened around the outside circumference of the lower section of each of the concrete columns, and extending knife-like below the concrete. The concrete of each of these lower sections also was tapered upward from the outside to the inside to increase the cutting effect. Soft formations facilitated the sinking of the shafts and only once was it necessary to cut under a column to keep it vertical. One water stratum was encountered but it was sealed off with grout.

Excavating Tunnel

Excavation of the tunnel connecting the two vertical shafts was done with pneumatic equipment. The work was started from the south shaft and continued northward across the channel until the other shaft was dug into. The schedule called for the excavation and concreting of 12 feet each 24 hours, the night crew doing the digging and timbering up of the walls and the day crew cleaning out and concreting the section dug out by the night force.

The concrete walls of the conduit are 12 inches thick as compared with 18 inches of the vertical shaft. In doing this work, the floor section was laid first, after which the inverted U-shaped forms were placed and the concrete walls poured 6 inches at a time until the top was reached. As in the vertical shafts the tube walls are reinforced with a network of steel bars. As the concrete hardened the interior forms were removed.

With the exception of the first 190 feet, the excavating was done under pressure, an air lock being provided for that purpose. This was to prevent the encroachment of water and inundation of the tunnel. There was very little danger

of water from the channel breaking through from above in view of a ceiling of impervious clay, but water seeped through from below and from strata encountered in the tunneling and the pressure quickly forced the seepage water out through a valve-controlled pipe to the outside. The water problem, however, was not serious and only an average pressure of 7 to 7½ pounds was used throughout the job. This pressure was sufficient to hold back a 15-foot head of water.

The air lock consisted of a compartment 24 feet long with steel ends and doors sealed into the concrete walls of the tunnel and in which pressure could be raised or lowered gradually to permit workmen to enter or leave the working end of the tunnel which was kept constantly under pressure. As there usually were from 25 to 30 locking operations each day and from 40 to 50 at night, depending on the amount of material to be moved in and out, plenty of fresh air was supplied from this source. Air pressure for the tunnel and for the operation of tools was supplied from a battery of high pressure tanks on the surface which were kept filled from a near-by compressor.

When excavators reached the vertical shaft on the north side of the channel, it then was a comparatively simple matter to seal off the conduit against the face of the shaft, release the air pressure in the tunnel and then cut through the concrete walls of the shaft into the open.

Although the conduit was constructed primarily for use of lines of the Sinclair Texas Pipe Line Co., it is likely that space will be leased to other companies desiring to cross the channel. There is capacity for as many as a dozen large-sized lines. It is probable that a number of new crossings will have to be made in the near future replacing lines which have been down a long time and it has been indicated that these will seek use of the tunnel.

LEASING OIL LAND PRESENTS PROBLEMS

(Continued from Page 18)

fore the discovery of oil had a value as low as $25 per acre and subject to only partial cultivation should become a subject for contest between rival owners when its value jumped suddenly to from $2,000 to $4,000 per acre. This price represents both bonus and expected royalty.

Many disputes as to ownership cannot be settled out of court and it is stated that the conditions surrounding many of these suits will make romantic reading some day after the decisions have been handed down and court records are available to the public.

Many things that are tragic have been brought to light in this sudden revival of interest in East Texas land and the land men state that it has been necessary to trace owners of property from the eastern sea coast to the Pacific and from Canada to Mexico. In doing this work many strange, tragic and amusing things have developed.

All of the queer land cases are not located in East Texas, however, for it is stated that when the Mexia boom was on it was found that many transfers and other papers had been witnessed before a "deputy notary public." As there were some 200 documents so witnessed it was necessary to make an investigation and learn who this deputy notary was and how he acquired that commission.

It was found that the papers had been witnessed by an assistant to the owner of a country store who was an accredited notary. This assistant who had signed himself "deputy notary public" had been in the habit of acting for his employer in many other transactions and therefore assumed that he could execute sworn statements for his employer also.

In the southern Texas country along the Rio Grande where there are large tracts that were originally land grants or "porcions" secured from the old Spanish or Mexican government there are many complications that now arise when leases to the land is desired.

These old porcions varied in size from 1,000 to as much as 30,000 acres in one block. The only title of record is now found to lie in the original land grant, for upon the death of the person to whom the grant was issued the heirs made it a practice to subdivide the property into equal shares, and lived upon it.

For example if the original grant comprised about 1,000 acres of land it was divided into, say five equal shares, if that were the number of direct heirs, and the division made by dividing the land by unsurveyed boundaries. The five heirs moved upon their respective tracts and their heirs further subdivided the land as they became of age and lived upon smaller and smaller tracts until the land is now occupied by numerous descendants of the original owner.

Each of these heirs really can acquire title to his parcel of land under the Texas law but few have done so and it is therefore necessary for a company now leasing any portion of this original tract to secure the signature of every one of the heirs to any portion of the block because each has a legal claim to an interest in any part of it.

This makes the acquisition of lease rights in one of these old porcions a matter of much work for the land man. It is understood that taxes have been collected by the very simple process of visiting each resident and learning from him or her how much land they laid claim to and assessing them accordingly. It the total amount of land taxed equals the total acreage in the porcion everyone is satisfied, for a great many of these people speak only Mexican.

TIDE WATER INSTALLS MAMMOTH TOWER

(Continued from Page 16)

pin on which the bolster could swivel and the rear bolster was arranged for a longitudinal travel of 8½ inches to compensate for movement of the load when occupying the position of a chord on the curves. Lubrication of the bearings was by means of a pressure grease gun.

The shipment was handled by the Erie Railroad over their main line tracks to Jersey City and was scheduled between terminals. Movement was made at 10 miles per hour, only during daylight hours keyed with controlled west-bound traffic so that freedom of movement at certain critical points was assured. The distance from the rails to the top of the nozzles on the shell of the vessel was 16 feet 9 1/16 inches which was just within the clearance of several overhead structures along the railroad. In order to clear the shipment through to Jersey City it was necessary to raise one bridge over the Erie tracks.

At Jersey City, the shipment was transferred to a car float of the Lehigh Valley Railroad, which handled the cars down the North River to their terminal. From here the cars were handled over the tracks of the Lehigh Valley Railroad and East Jersey Railroad (the latter operated by the Tide Water Oil Co.) into the Bayonne plant of Tide Water. A special track had been laid across the center of the foundation of the bubble tower and the two cars carrying the tower were spotted so that the top of the tower was located in exact position for raising the tower. All details of this shipment were worked out in advance with the result that the movement was successfully made as scheduled in seven and one-half days.

Completion of the new cracking unit at Bayonne, which involves a number of interesting departures in such work, will equip Tide Water for the production of additional high octane gasoline at this plant, and with the Edeleanu lub oil unit, recently completed at the Bayonne plant, give Tide Water one of the most modern refineries in the country, equipped for the production of both high octane number gasoline and an extremely well diversified line of lub oil of outstanding quality.

BAROID

Extra-Heavy Colloidal Drilling Mud

BAROID is a uniform, high-grade specially prepared pulverized weight material for increasing the weight of Drilling Mud to overcome high gas and water pressures.

BAROID has a specific gravity of 4.2 and is compounded so as to enable the preparation of pumpable Muds weighing 140 to 150 lbs. per cubic foot.

Drilling Muds made up from BAROID will not settle out if circulation is suspended and are free from dangers of stuck drill pipe or casing.

Strict laboratory control assures highest quality in manufacturing and co-operation by our experienced field men provides exceptional service for BAROID users. Literature on request.

Manufactured By

NATIONAL PIGMENTS & CHEMICAL CO.

Sold in New Mexico, Texas, Louisiana, Mississippi and Alabama by

PEDEN COMPANY, HOUSTON, TEXAS

Sold in the remainder of the U. S. by

BAROID SALES CO., LOS ANGELES, CALIF.

AQUAGEL

Trouble-Proof Colloidal Drilling Mud

AQUAGEL is a uniform, specially treated high-grade clay packed in 100-lb. sacks and carried in all oil fields. One ton of AQUAGEL makes 180 bbls. of Drilling Mud when mixed in the proportion of 3% by weight in water.

AQUAGEL provides the cheapest source of gel-forming colloids, which prevent caving, stuck drill pipe and casing, and loss of circulation. Ask for literature.

LEMCO MUD SCREEN

Turbine-Driven Lemco Mud Screen

A mechanically vibrated screen for removing sand and shale from Drilling Mud. Pays for itself many times over by reducing abrasion of pump parts, reducing expenditures for Drilling Mud and weight material and by eliminating construction of mud ditch or slush pit. Literature on request.

MARTIN-DECKER AUTOMATIC MUD SCALE

A new and improved trouble-proof device—easily installed—for continuously indicating and recording on a chart the true weight of your mud. An important safeguard against danger from blowouts. Ask for literature.

Sold By

BAROID SALES COMPANY

837 Jackson St. Los Angeles, California.

New Wells in Steuben And Tioga Counties in N.Y.-Penn Gas Field

By Special Correspondent

CORNING, N. Y., Oct. 31.—The Penn United Gas Co.'s No. 1 Leander Gee, an important test seeking a west extension of the Farmington area in the Tioga gas field, began to look bad early in the week when it had not found anything after drilling a little way into the Oriskany sand. The top of the lime was found at 4,235 feet and pipe was set at 4,247 feet. At 18 inches in the Oriskany the top of the gas was uncovered and the well made 2,000,000 feet in 24 hours. It was to have been drilled deeper and this twenty-second well in the Tioga Field is expected to be a good one.

The Lycoming Gas Co.'s No. 1 Hoyt in Tioga County was drilling below 3,600 feet at last report and the same company's No. 1 Herrington was below 2,600 feet. The same company's No. 1 Wheeler, which did not find gas at the usual depth and was drilled deeper, was at 4,850 feet with nothing showing. Another deep test, the Wells Co.'s No. 1 County farm, was drilling at 4,810 feet. James Duff and others' No. 1 Olson, in Columbia Township, Bradford County, was drilling in lime at 5,585 feet. North Branch Gas Co.'s No. 1 Colegrove was drilling at 2,940 feet and the same company's No. 1 Middaugh was drilling at 3,850 feet.

Hungiville and others were cleaning out preparatory to drilling deeper in their test on the Booth farm in Potter County between Coudersport and Shinglehouse, which was recently reported as a good looking prospect.

The Penn United Gas Co.'s No. 1 Boom in Tioga County was shot with 20 quarts to straighten a crooked hole. It was making about 1,000,000 feet of gas at 22 feet in the Oriskany sand topped at 4,082 feet.

At an approximate depth of 1,190 feet the Lewis Hill well in the Rathbone Pool, near Addison, N. Y., late yesterday was flowing gas at the rate of more than 2,000,000 feet per day. Drillers however, are continuing to send the bit down to the depth of the Alvah Allen discovery well which has been termed the most spectacular in the entire area.

The Lewis Hill well, the second in the Rathbone Pool, is owned by the Tri-State company of Elmira and Messrs. Leland Wright, William Kitz and Percy M. Mays of Bradford. Mr. Wright was the original Rathbone Pool promoter.

Gas was struck at 800 feet at the Lewis Hill location, and at 1,040 feet the pressure blew water and chipped rock over the derrick.

The drill is now in a lime formation which is thought to cap the Allen formation.

DRILL CRACKING TUBES TO REDUCE HAZARD

(Continued from Page 22)

failures before the ultimate danger point of the conduit is reached.

It will be evident that in the past the idea of using fusible links or safety plugs to act as a warning of dangerous conditions has been given recognition but up to the present nothing has been devised to safeguard piping and tubing in the oil industry, and remove the enormous hazard of failures in conduits under increasingly difficult duty. If we analyze the cracking still installation, or in fact any distillation equipment, we will realize the immense amount of piping involved and the corresponding necessity of avoiding failures to protect the lives of operators, to say nothing of equipment. The use of such devices as screw plugs or even periodic drilling is evidently inadequate and it seems evident that the only real safeguard can exist in some method which can be applied indiscriminately along the whole length of important conduits without weakening the structure and at reasonable cost.

Within the past year or two I have had occasion to witness, in many instances, the effect of spotty corrosion, the erratic nature of which, coupled with the evident hazard and destruction caused by failures, have led to the development described. A good illustration of a dangerous corrosion spot is shown where the drilled hole indicated a pending failure. The sample was cut from a piece of 6-inch diameter pipe which had been in operation about 6,000 hours. The spot occurred on the outer wall of the bend but not in the center of the sweep where the metal probably would have been drilled for inspection. As a matter of fact, at the center of the bend the metal was virtually unaffected. A serious accident was probably averted by the use of the drilling and up to date there are seven recorded instances of this nature at hand.

Work is now in progress on accumulating data on best standards for size of holes and spacing and the application of the method to facilitate its being put into practice."

It will be noted in the photographs of the piping as shown on the stills that the insulation is removed for the purpose of drilling and after this is accomplished a small pipe is tack welded to the surface of the tube and projects through the insulation to give free access to the vapors in the event of failure.

Various other methods of showing the location of failures are available, for instance, putting in tin dams at regular intervals along the pipe, the leakage between these dams showing up in a section of 6 to 8 feet of pipe, giving the required indication. Since it is unnecessary to shut down at the first seepage through the hole, the smoking of a section of pipe is sufficient indication and in some cases it is considered desirable to use this method as it is less expensive.

Mr. De Florez intends to make available to the industry a service to insure the establishment of proper standards to guard against misuse of the plan which his organization has developed.

INCREASE OCTANE RATING ETHYL GASOLINE MARCH 1

(Continued from Page 89)

seller because of the existence of unusual circumstances, to-wit:

1. Buyer shall send to seller's laboratory a sample of the base stock proposed to be mixed by buyer.

2. Seller's laboratory shall test it and its determination shall be accepted as final by buyer.

3. If seller reports that the sample is a gasoline meeting its requirements as a base stock for mixture with said "Ethyl" fluid, then buyer will mix at least the amount of tetraethyl lead per gallon of gasoline so found to be required by seller's laboratory.

4. Buyer will then send to seller's laboratory a sample of the product so mixed, and agrees not to deliver any part of said mixture until it has received information from seller that it meets the above specifications.

Buyer also agrees to use its best endeavors to insure that all Ethyl Gasoline sold by it and delivered to the consumer directly or through resellers, shall conform to a standard of quality at least equal to said specifications, and will not make further deliveries to any reseller in whose possession the said product is found not to conform to said specifications, unless an explanation satisfactory to seller shall be made in writing by said reseller.

The minimum content of tetraethyl lead in said Ethyl Gasoline manufactured and/or sold by the buyer hereunder shall be in the proportion of 1 to 4,206 by volume for commercially pure tetraethyl lead (which is equal to nine-tenths (9/10) of a cubic centimeter of tetrathyl lead per U. S. gallon of gasoline) and the maximum content of said tetraethyl lead in a U. S. gallon of gasoline shall be in the proportion of 1 to 1,260 by volume (which is equal to three (3) cubic centimeters of tetraethyl lead per U. S. gallon of gasoline).

The parties hereto appreciate that gasoline for use in aircraft should have certain characteristics different from those for use in automobile motors of today and that it might be detrimental to the good will in and reputation of said antiknock compound if the minimum standard referred to in this clause ("V") should be used in aircraft motors. It is, therefore, agreed that the buyer will not sell said gasoline for use in aircraft except under emergency circumstances.

TANK WAGON CHANGES

(Continued from Page 94)

tank wagon and station prices in Charlotte, N. C., to 18.5 cents and 19.5 cents October 23. Standard Oil Co. of Louisiana advanced the gasoline tank wagon price one-half cent throughout its marketing territory with the exception of New Orleans, Alexandria and Lake Charles, effective October 28. On October 29 the kerosene price in New Orleans was reduced to 10 cents, including the 2-cent tax. Atlantic Refining Co. reduced the gasoline tank wagon and station prices in Springfield, Mass., October 22 to 13 cents and 14 cents. On October 27 these prices were posted at 11.5 cents and 12.5 cents in Providence, R. I., and 14.6 cents and 15.6 cents in New Haven, Conn.

CRUDE ADVANCES STRENGTHEN MARKET

(Continued from Page 12)

the major refineries and bulk terminals, U. S. Motor gasoline was sold by all the large companies at 5½ to 6 cents per gallon. The prices quoted by a group of inland Pennsylvania refiners were only slightly above the Oklahoma quotation.

To maintain a healthy price relationship between the areas, the Gulf Coast export and domestic market should be at least 2 cents above the Oklahoma (Group 3) market, the 2 cents covering rail transportation and handling charges to the coast. Normally the Atlantic Seaboard market would be at least 1 cent above the Gulf Coast market and Pennsylvania refiners are entitled to 2 or more cents per gallon above Group 3 prices based on freight rate advantages.

As long as these price disparities between refining groups exist they are a threat to the stability of the Mid-Continent advances. Part of the weakness in the East Coast and Gulf Coast markets has been due to the shipments of gasoline from California. The West Coast refiners have had trouble in maintaining a healthy market in the western states and in their surplus shipments to East Coast and export buyers have reduced prices to whatever level was necessary to get business.

Students of the crude oil situation are predicting that this situation will be aided with a general advance in California crude oil prices. It is also predicted that the next few days will see the start of refinery price increases at East Coast and Gulf Coast points which will bring these quotations in line with the Mid-Continent points. An additional prophecy is to the effect that these advances will be followed with general advances in tank wagon and service station prices in all marketing areas.

Gasoline and Naphtha

U. S. Motor gasoline on Tuesday was quoted direct to the trade at 4¼ to 4¾ cents. The higher prices were generally for material in which the refiner guaranteed an octane rating of 60 or better, a low initial with an endpoint around 420. This is in effect a premium product. With contract prices under the spot quotations, the latter market is not active despite the higher crude oil quotations. Jobbers are naturally taking the quantities allowed under their contracts and with a seasonal decline in demand they do not require any open market purchases. Resellers are not inclined to

CALIFORNIA CRUDE OIL PRICES

(Continued from Page 93)

ASSOCIATED OIL CO. PRICES

Associated Oil Co. prices, effective June 20, are as follows:

Ventura Avenue, 22 gravity, 58 cents, with 2 cents added for each degree upward to and including 30 gravity, which is 74 cents.

Kettleman Hills, 30 gravity and above 66 cents.

Potrero, 24 gravity, 69 cents, with 2 cents added for each degree upward to 34 gravity, which is 69 cents.

UNION OIL CO. OF CALIFORNIA

Crude Oil Prices for Its Purchases at the Well for Crude Produced in Strict Accordance With the Production Allocations Made by the California Statewide Curtailment Committee Effective 7 a.m., June 20, 1931

(All gravities above those quoted take highest price for that field)

Gravity °A.P.I.	Signal Hill	Alamitos Heights, Seal Beach	Huntington Beach	Athens, Rosecrans, Dominguez	Torrance	Santa Fe Springs	Playa Del Rey*	E. Coyote, Richfield	Montebello	Santa Paula	Orcutt	Coalinga	Lost Hills	McKittrick, Kern River, Sunset-Midway, Elk Hills, Buena Vista Hills	Gravity °A.P.I.
11-13.9	....	....	....	....	....	....	....	....	....	....	....	....	....	$.50	11-13.9
14-14.9	$.65	$.65	$.65	....	$.65	....	....	$.65	$.65	$.65	$.55	$.55	$.55	.55	14-14.9
15-15.9	.65	.65	.65	....	.65	....	....	.65	.65	.65	.55	.55	.55	.55	15-15.9
16-16.9	.65	.65	.65	....	.65	....	....	.65	.65	.65	.55	.55	.55	.55	16-16.9
17-17.9	.65	.65	.65	....	.65	....	....	.65	.65	.65	.55	.55	.55	.55	17-17.9
18-18.9	.65	.65	.65	....	.65	....	....	.65	.65	.65	.55	.55	.55	.55	18-18.9
19-19.9	.65	.65	.65	....	.65	....	$.65	.65	.65	.65	.55	.55	.55	.55	19-19.9
20-20.9	.65	.65	.65	....	.65	....	.65	.65	.65	.65	.56	.55	.55	.55	20-20.9
21-21.9	.65	.65	.65	....	.65	....	.66	.66	.65	.65	.57	.55	.57	.55	21-21.9
22-22.9	.65	.65	.65	....	.66	....	.67	.67	.65	.65	.59	.55	.59	.56	22-22.9
23-23.9	.67	.67	.67	....	.67	....	.68	.68	.65	.65	.61	.55	.60	.58	23-23.9
24-24.9	.69	.69	.69	$.69	.68	$.65	.69	.69	.65	.66	.63	.55	.62	.61	24-24.9
25-25.9	.71	.71	.71	.71	.70	.65	.70	.70	.65	.68	.65	.57	.64	.64	25-25.9
26-26.9	.73	.73	.73	.73	....	.65	....	.72	....	.70	.67	....	.66	.66	26-26.9
27-27.9	.75	.75	.75	.75	....	.66	....	.74	....	.72	....	....	.67	.68	27-27.9
28-28.9	.77	....	....	.77	....	.71	....	....	....	.74	....	....	.69	.71	28-28.9
29-29.9	.79	....	....	.79	....	.73	....	....	....	.76	....	....	.71	.74	29-29.9
30-30.9	.81	....	....	.81	....	.75	....	....	....	.78	....	....	.72	.76	30-30.9
31-31.9	....	....	....	.83	....	.78	....	....	....	....	....	....	....	....	31-31.9
32-32.9	....	....	....	.85	....	.80	....	....	....	....	....	....	....	....	32-32.9
33-33.9	....	....	....	.87	....	.82	....	....	....	....	....	....	....	....	33-33.9
34-34.9	....	....	....	.89	....	.85	....	....	....	....	....	....	....	....	34-34.9

*Subject to a gathering charge of 5 cents per barrel.

make long purchases or short sales and this speculative feature of the market has been reduced to a minimum.

Most refiners are quoting a low of 4½ cents on 400 endpoint gasoline although resale material was available as low as 4¼ cents. The higher gravities continue scarce. There are more buyers of the 390 and 375 endpoint grades in the domestic market. In Oklahoma the low of 390 endpoint was 4¾ cents and 4⅞ cents for 375. The 360 and 350 endpoint grades were scarce at a low of 5¼ cents.

The demand for blending naphthas cannot be said to be active although this is the season of the year when a number of northern buyers usually are in the market for low gravity 450 or 437 endpoint grades which will stand a blend of up to 50 per cent natural gasoline. The high prices prevailing for the naturals probably accounts for the inactivity. Refiners who make the blending naphthas have generally advanced their naphtha prices in line with the increases made in their refinery gasolines. In this connection, there has been considerable blending naphtha offered by West Texas refiners during the past week. Some of this naphtha is high in sulphur content but this disadvantage is offset with a relatively high octane rating.

Kerosene

The expected advance in kerosene prices failed to materialize and quotations are the same as last week. Too many refiners apparently are selling a special grade of tractor fuel under 2 cents. The marketing importance of these tractor fuels which were unknown in the market a few years ago is rapidly increasing in importance.

Fuels

Contract shipments of fuel oil, gas oil and furnace oil have increased. Spot buyers continue to find little material offered especially in the more desirable grades. The greatest strength is in the high gravity fuels, gas oils and furnace oils. In the industrial grades, the low quotations quoted by the St. Louis and Chicago refiners continue to shut off this outlet for Oklahoma refiners who are forced to rely on local industries, public utilities and railroads.

Except for the high cold test material, prices in Oklahoma range from 25 cents for the low gravity grades to 55 cents for the 28-30 and 30-32 low cold test grades. In gas oils, refiners continue to maintain a price of 1⅜ cents for U.G.I. material. A little high cold test material out of Oklahoma City was reported sold at 1¼ cents last week. The zero low flash gas oil is sold at a low of 1⅝ cents which is also the low of the 36-38 grade. The higher gravity straw and prime grades range from 1¾ to 1⅞ cents.

Natural Gasolines

All grades of natural gasoline in Oklahoma dropped from a high of 4¾ cents to 4½ cents the first few days of November. The market rallied on Saturday and the first of this week when orders increased in volume. Several manufacturers quickly sold their output for the first 15 days of the month. The crude price advance and the stronger tone in the refinery market aided the natural gasoline manufacturers and prices were firm at 4⅝ to 4¾ cents on Tuesday in Oklahoma and one-fourth cent lower in Texas.

Lubricants

No changes were reported in lubricating and wax list. The movement of these products is also confined to contracts which in several cases continue to take all the output available. The higher cold test neutrals are a drug on the market and the higher cold test bright stocks are also less active than the low cold tests. Few inquiries are reported for wax either in the domestic or export market.

OIL STOCKS REFLECT IMPROVED OUTLOOK

(Continued from Page 96)

first nine months of 1930, equal to $2.60 a share on 2,942,992 average no par shares of capital stock outstanding during that period and $2.27 a share on 3,367,366 shares outstanding at end of the period.

Shell Union

Shell Union Oil Corp. and subsidiary companies reported for the third quarter this year a loss of $2,681,620 after deductions, compared with a loss of $11,056,034 for the preceding quarter. For the third quarter of 1930 the report showed profit, before federal taxes, of $1,107,659.

Socony-Vacuum

Socony-Vacuum Corp. declared a dividend of 25 cents a share. On September 15 the corporation paid an initial dividend of 40 cents a share, the same as the quarterly rate paid by Standard Oil Co. of New York before its merger with Vacuum Oil Co. to form Socony-Vacuum. Stock has a par value of $25.

New Jersey Standard

Standard Oil Co. of New Jersey declared the usual extra dividend of 25 cents in addition to the regular quarterly disbursement of 25 cents a share.

TARIFF REPORT ON OIL READY FOR DECEMBER 1

WASHINGTON, D. C., Nov. 2.—The last opportunity for witnesses to appear publicly before the United States Tariff Commission and give testimony concerning the cost of producing crude petroleum, fuel oil, gasoline and lubricating oils here and abroad expired after a five-minute session of the commission with no one offering additional information.

Chairman Henry P. Fletcher presided and Commissioners J. L. Coulter, Edgar B. Brossard, and Lincoln Dixon were present. Only Russell B. Brown, secretary of the Independent Oil Producers Association of America and Louis Titus, Washington representative of the association, announced their presence at the hearing, Mr. Brown stating that they had sent in evidence from time to time and in that way had presented their case with statistical records.

Practically all oil producing companies have responded to questionnaires sent out by the commission to obtain needed information, all of which has been accepted as confidential. There has been a checkup and additional facts have been gathered by the commission's field agents who have had access to the books of producing companies.

It is expected the report of the commission will be ready to submit to Congress on the first Monday of December.—C. E. K.

CRUDE PRICES ADVANCED IN MANY FIELDS

(Continued from Page 13)

announced it had adopted the Continental Oil Co.'s price schedule in Kansas and Oklahoma, effective November 2. It had not yet made a change in its Texas Panhandle prices.

Effective November 3, the Ohio Oil Co. increased the prices of Elk Basin, Grass Creek, Big Muddy and Rock Creek, Wyoming, crudes 15 cents and Sunburst, Montana, 10 cents per barrel.

FEDERAL CASE POSTPONED

DALLAS, Tex., Nov. 2.—The case of Brock Lee Oil Co. seeking a permanent federal injunction against the enforcement of the proration orders of the State Railroad Commission against wells of the company in East Texas has been postponed until January 4 to be tried at Tyler. The suit was to have been heard before a three-judge Federal Court at Beaumont, October 29.

Nor was any action taken against Brig. Gen. Jacob F. Wolters, in charge of the enforcement of proration orders, who was cited for contempt of court for ignoring the temporary injunction granted the Brock Lee Oil Co. two weeks ago by Federal Judge Randolph Bryant. The latter case will not come up until after a decision is made on the permanent injunction.

TANK CAR HEARING

WASHINGTON, D. C., Nov. 2.—The Interstate Commerce Commission has postponed the final date for filing answers to a questionnaire on privately-owned tank cars until January 1, 1932.—C. E. K.

Late Fields

(Continued from Page 24)

NW SE Section 9-7-8, in Seminole County, in the Fish Pool, and Gypsy Oil Co.'s No. 2 McNevins, C NE SW Section 5-8-9, Hughes County. This location is on a community block of leases and offsets two other gas wells.

KANSAS

Palmer & Hinkle's No. 1 Phalen, SE cor., Section 2-17-10w, Ellsworth County, Kansas, topped the Silicious lime at 3,390 feet and found a showing of oil at 3,418-20 feet, that rose 200 feet in the hole. The test was drilling at 3,434 feet with no increase in the oil showing. The test is located about one-half mile from Alyward and others' No. 1 Stratman, SE cor. NW SE, Section 1-17-10w, which is estimated at 1,500 bbls. a day.

Hilligoss and others' No. 1 Isern, SW cor. SE NE, Section 12-20-11w, a wildcat in Barton County, swabbed 540 bbls. of oil in 20 hours, after the well had been drilled deeper. The oil was found in the Silicious lime at 3,313-19 feet. The owners expect to drill the well deeper and make another production test.

Another large well was completed in the Ritz-Canton Field, in McPherson County, the Abilene Oil Co.'s No. 3 Anderson, SW cor. NW, Section 36-19-2w, swabbed 90 bbls. of oil an hour from the Viola lime at 3,400-12 feet.

The two tests on the Canton townsite in Section 21-19-1w, were shut down. J. H. Reid and others' No. 1 Keefer, is shut down at 1,515 feet. The other test Adams and Jones' No. 1 Altman, has spudded and shut down.

Slick, Pryor & Lockhart's No. 3 Schurr, NW cor. NE SW, Section 21-21-10w, in the Schurr Pool, Rice County, was preparing to make a swabbing test. The test found a hole full of oil in the Silicious lime at 3,315-36 feet. It was pulling the big casing preparatory to making a swabbing test.

Phillips Petroleum Co. through the request of other operators in the Schurr Pool, in Rice County, has taken new potential tests on its Nos. 1 and 2 Metzger. The company increased its potential over the old one taken October 15 and 16, 444 bbls. a day.

The Phillips Petroleum Co.'s No. 1 Metzger, SW cor. NE, Section 21-20-10w, increased its potential from 1,202 bbls. a day to 1,377 bbls. a day by lowering the working barrel to the bottom of the hole. The same company's No. 2 Metzger, SE cor. SW NE, Section 21-20-10w, increased its potential gauge from 978 bbls. a day to 1,247 bbls. a day by the same method.

Since the Phillips Petroleum Co. increased its potentials it is believed that a number of the other operators are preparing to take a new potential test of their wells in the pool. The present daily allowable for the pool is 20 per cent of the potential. All of the oil is purchased by the Stanolind Crude Oil Purchasing Co.

CRUDE OIL PRICE CHANGES

Effective November 2, led by the Continental Oil Co., all crude oil purchasers in Kansas, Oklahoma, North and Central Texas advanced the price of crude oil 15 cents per barrel on all grades posted by them.

Effective November 2 the Magnolia Petroleum Co. increased the price of East Texas crude oil 15 cents per barrel, followed by the Panola Pipe Line Co., Tidal Refining Co. and Sinclair Refining Co.

Effective November 2 the Magnolia Petroleum Co. advanced its price for West Texas crude in the fields in which it buys, 15 cents per barrel, followed by other buyers on same day. Lea County, New Mexico, crude was advanced 15 cents by The Texas Company, effective November 2, followed by other buyers on same day.

Salt Creek, Wyoming, crude was advanced 15 cents per barrel on each degree from below 29 degrees up to 37 and above, effective November 2. It follows the Stanolind Crude Oil Purchasing Co.'s Oklahoma-Kansas prices within the limits above stated.

Effective November 3 the Ohio Oil Co. advanced the price of Lima and Indiana crude 10 cents per barrel and Illinois, Princeton, Wooster and Western Kentucky crudes 15 cents per barrel. On November 1 the Stoll Refining Co. advanced Hart County, Kentucky, crude 10 cents per barrel.

Effective November 2 the South Penn Oil Co., Tide Water Pipe Co., Pennzoil Co. and Pure Oil Co. reduced prices of Pennsylvania grade oil. Bradford and Allegany were cut 15 cents per barrel and all other districts were cut 10 cents per barrel.

Effective November 2, H. L. Hunt, Inc., advanced Urania, Louisiana, crude 10 cents.

Effective November 2 The Texas Company and Humble Oil & Refining Co. advanced all grades of Gulf coastal crude oil 15 cents per barrel.

Effective November 2 the Magnolia Petroleum Co. advanced Darst Creek, Texas, crude 8 cents per barrel and Mirando and Luling crude 15 cents per barrel. The Texas Company on the same day adopted the Darst Creek and Mirando prices of the Magnolia.

Effective November 3 the Ohio Oil Co. advanced Elk Basin, Grass Creek, Big Muddy and Rock Creek, Wyoming, crude 15 cents per barrel and Sunburst-Montana crude 10 cents per barrel.

SENATOR WOULD OPEN PUBLIC DOMAIN FOR OIL

WASHINGTON, D. C., Nov. 2.—Early in the coming Congress Senator Cutting of Santa Fe, N. M., will introduce a bill providing that the Secretary of the Interior shall be deprived of authority to suspend oil prospecting on government land. The bill will provide that the public domain shall be opened for prospecting for oil and gas and for exploitation of these natural products.

This bill is the answer of Senator Cutting to the decision of the Supreme Court of the United States upholding Secretary Ray Lyman Wilbur in the exercise of his discretion in denying permits for prospecting on the public domain.

Senator Cutting thinks conservation was carried too far by the attitude taken by Secretary Wilbur. Before the secretary's order was put into effect it is said more than $1,000,000 had been invested in permit royalties and more than $2,000,000 had been paid in operating agreements, all of which was tied up indefinitely.

Senator Cutting believes his State will be assisted greatly in curing industrial depression if it can operate its oil properties which he declares is a "drop in the bucket" compared to the output in Texas and Oklahoma.—C. E. K.

PANHANDLE EASTERN NATURAL GAS CONTRACTS

CHICAGO, Nov. 2.—The Illinois Commerce Commission told representatives of Panhandle Eastern Pipe Line Co. that its contracts to sell natural gas to downstate utility companies must be transferred to Panhandle Illinois Co., an Illinois subsidiary of Panhandle Eastern before the commission would authorize temporarily reduced experimental rates.

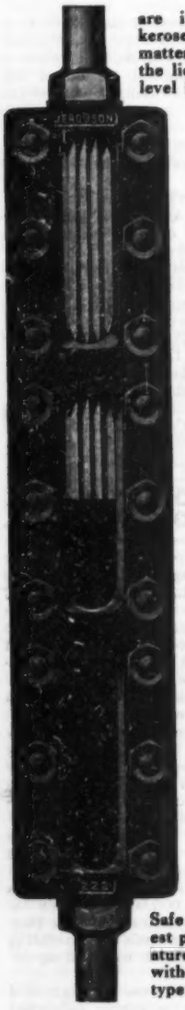
The commission asked Panhandle Eastern to transfer these contracts to its subsidiary so that transactions might be classed as intrastate which would come under the jurisdiction of the state commission. As they now stand, these transactions are interstate and not subject to jurisdiction of the Illinois commission. Company representatives indicated their willingness to comply.

GAS WELL NEAR CAMERON, MO.

C. D. Reynolds and L. E. Baker announce the completion of a gas well with an estimated flow of 100,000 feet of gas a day on the T. Selle farm in DeKalb County, in part of 1,675-acre block they have under lease in the area. The gas was found in sand at a total depth of 601 feet. The well is located in the northwestern part of the state.

JERGUSON

REFLEX GAGES



are ideal for gasoline, kerosene, steam, oil. No matter what the color of the liquid, they show the level in BLACK.

The *empty* space appears WHITE

The *Liquid* shows BLACK

Safe and durable at highest pressures and temperatures. Furnished with or without valves for every type of service. Write us.

Jerguson Gage & Valve Co.
Mystic Ave. and Northern Artery
SOMERVILLE, MASS.

Progressive Drilling and Lease Operators

Have you learned of the remarkable returns SITTON'S REMOVABLE BOILER COVERS will give you through tremendous savings in fuel, lowering of maintenance costs, lessening of boiler equipment and increased working efficiency?

Of durable all-weather 85% Magnesia construction, they repay their cost many times over.

Stop your losses before the winter months increase them. Investigate now.

The only practical removable cover on the market today.

Also covers for cracking chambers, hot oil pumps, heat exchanger heads, fittings, lines, etc., etc. Design covered by U.S. PATENTS.

E. R. SITTON
FORT WORTH, TEXAS
P. O. Box 1842

Penn State College Oil-Gas Conference Will Be Held in May

BRADFORD, Pa., Nov. 2.—Plans for the second annual Petroleum and Natural Gas conference were drawn at a meeting of the Pennsylvania State College petroleum advisory board held in Bradford today.

The conference will be held at State College in May, the date to be announced later. Arrangements have been made for the reading of papers on economics, gas and the production and refining of crude. Afternoon and morning sessions will be held.

Both the research and extension divisions of the School of Mineral Industries have been organized on a business-like basis and are advancing rapidly.

The petroleum research of the college is concerned with the general objectives of mineral industries research and the collection and compilation of production data; oil recovery from sandstone cores; porosity relations; mechanism of flow through sands and sandstone reservoir rocks; the effect of pressure on the viscosity of crude; and the mineralogy of reservoir rocks.

New Project Announced

Announcement was made at the meeting yesterday of a new project, the elimination of gypsum from wells. It is understood that the formation of gypsum on the wall of a well becomes so great at times that the production of the well is retarded and causes a loss to the producer. Work on the project will be started immediately.

Professor Bonine, head of the department of geology and mineralogy at the college, stressed the need for core samples other than those of the Bradford district. He stated that research work was retarded owing to the lack of samples of sand from other parts of the State. He requested all producers to forward to the School of Mineral Industries at the college any samples of sand, fossils, etc., which they may find while drilling.

Doctor Gauger reported on future research work, the new extension division of the School of Mineral Industries and the coming conference.

Members of the petroleum advisory board attending the meeting were Dr. A. W. Gauger, Prof. C. A. Bonine, State College, Pa.; W. J. Brundred, Oil City; R. M. Haskell, R. T. Zook, A. E. Booth and E. E. Brown, Bradford.

CHANGES ANNOUNCED IN A. P. I. PROGRAM

NEW YORK, Nov. 2.—Several changes have been made in the speaking program prepared for the American Petroleum Institute's twelfth annual meeting at Chicago November 10 to 12.

At the group session of the division of production Wednesday morning, November 11, Stanley Gill and Fred W. Karl, of the Gulf Companies, will present a paper, "The Evaluation of Production Corrosion Losses."

At the group session of the division of refining Wednesday morning, J. A. C. Warner, Society of Automotive Engineers, will speak on "Troubles!" and Arthur Lachman, University of California, will present a paper, "A New Method of Refining Gasoline." The paper, "Permissible Vapor Pressures in 1931 Cars," will be prepared by O. C. Bridgeman, H. S. White and F. B. Gary, of the U. S. Bureau of Standards.

At the group session of the division of refining Thursday morning, November 12, the subject of the paper, "Extreme-Pressure Lubricants," by H. C. Mougey and J. O. Almen, General Motors Corp., will be discussed by the following:

Sydney Bevin, Tide Water Oil Co.; H. C. Dickinson, U. S. Bureau of Standards; R. T. Haslam, Standard Oil Development Co.; C. M. Larson, Sinclair Refining Co.; A. J. Scaife, the White Motor Co.; R. E. Wilkin, Standard Oil Co. (Indiana); E. Wooler, the Timken Roller Bearing Co.; and J. P. Stewart, Vacuum Oil Co.

Presiding officers for various sessions have been announced as follows:

Division of production, group session, Wednesday, November 11, 9:30 a.m., C. R. Weidner, Prairie Oil & Gas Co.

General session, Wednesday, November 11, 2:00 p.m., Robert R. Penn, Penn Oil Co., Dallas, Tex.

Division of production, group session, Thursday, November 12, 9:30 a.m., H. H. Hill, Standard Oil Development Co.

SOVIET REORGANIZES ITS OIL INDUSTRY

NEW YORK, Nov. 2.—In connection with the organization of the Chief Fuel Administration within the Supreme Soviet Economic Council, the United Oil Industry has been subdivided into four major organizations and a number of trusts.

A special oil section has been formed within the fuel administration to supervise the work of the following united industries and trusts:

1. The Azerbaidzhan Oil and Gas Industry.
2. The Grozny Oil and Gas Industry, which also has charge of geological survey work in the Daghestan Autonomous Republic.
3. The Maikop Oil and Gas Industry, including also geological work in the Kuban region and the Crimean Autonomous Republic.
4. The United Oil Trading Organization.

The trusts are:

1. Sakhalin Oil Trust.
2. Eastern Oil Trust (combining all enterprises formerly within the Ural Oil Trust, with the exception of geological work in the Daghestan and Crimean Autonomous Republics and the Kuban region).
3. The Central Asiatic Oil Trust.
4. The Turcoman Oil Trust.
5. The Georgian Oil Trust.
6. The Emba Oil Trust.
7. The Oil Refining Trust.
8. The Oil Pipe Line Construction Trust.

The special oil section also controls the State Oil Research Institute and the Oil Geological Survey Institute.

RUMANIAN EXPORTS GAIN

NEW YORK, Nov. 2.—The extent of Rumanian competition in world oil markets is illustrated by figures covering exports from Rumania during the first six months of 1931, during which exports increased from 1,737,657 tons in the first half of 1930 to 2,260,143 tons. This was an increase of 30 per cent, as compared with a gain of 32.6 per cent registered in export totals during the first half of 1930, and an increase of but 16.5 per cent in Rumanian production in the first half of the current year.

The principal increases recorded this year have been in gasoline and kerosene, both of which have sold for shipment out of Rumania in substantial quantities, to the disadvantage of the American Gulf market for these products.

Comparative data on exports of principal products follow:

	Tons first 6 mos. 1931	Tons first 6 mos. 1930
Crude oil	40,234	18,817
Motor spirit	819,278	544,381
Kerosene	515,583	406,604
Gas oil	324,449	229,943
Lubricating oil	32,244	17,390
Paraffin wax	3,350	671
Fuel oil	520,339	439,851
Other oils	4,886	.....

Much of the gasoline and kerosene exported from Rumania during the first half of the current year was in the "distressed" classification, and sold at extremely low prices.

CANADIAN GASOLINE PROBE

CHATHAM, Ontario, Nov. 2.—Following a conference of premiers of the four western Canadian provinces at Regina, Saskatchewan, announcement was made that joint action would be taken to secure a government investigation of gasoline prices and marketing in western Canada.

SAYS PRICES NOT SUFFICIENT

Thurman Hill, of the Kansas Public Service Commission, expressing belief that crude oil prices are not yet high enough, has suggested Kansas, Oklahoma and Texas commissioners meet in Tulsa on November 30 to consider further reductions in allowables by 10 to 20 per cent.

TEXAS ASSOCIATION MEETS

FORT WORTH, Tex., Nov. 3.—A group of members of the Texas Oil & Gas Conservation Association will hold a meeting Thursday, November 5, at 2:30 in Charles Roeser's office at Fort Worth to make preparations for the general meeting of the association which is to be held in Fort Worth, November 6, at the Texas Hotel.

LEGAL

Call for Bids to Purchase Royalty Oil Accruing to the United States from the Salt Creek, Wyoming, oil field. Pursuant to the provisions of Section 36 of the act approved February 25, 1920 (41 Stat., 437), sealed proposals, in duplicate, will be received in the office of the Secretary of the Interior, Washington, D. C., on or before noon on December 1, 1931, from responsible bidders for the purchase, for a period beginning January 1, 1932, of all royalty oil accruing to the United States from Government lands in the Salt Creek, Wyoming, oil field. For the calendar year 1930 the total Government royalty oil from Salt Creek field amounted to approximately 1,325,000 barrels, and for the period from January 1 to July 31, 1931, to approximately 666,000 barrels, about 14 per cent of the production of the field, the average gravity in both years being in the range from 36.0 to 36.9 degrees A. P. I. Additional information may be obtained from the Director, Geological Survey, Department of the Interior, Washington, D. C., or the Supervisor, Geological Survey, Casper, Wyoming. Bids are invited on three separate items as follows: Item 1. Royalty oil for the period beginning January 1, 1932, and ending December 31, 1932. Item 2. Royalty oil for the period beginning January 1, 1932, and ending December 31, 1934. Item 3. Royalty oil for the period beginning January 1, 1932, and ending December 31, 1936. Bids must be in the following form: "For the period beginning January 1, 1932, and ending December 31, 193.., (name of bidder), offers ..... cents per barrel above the highest field price for oil of equal or lower gravity in Oklahoma and Kansas, and/or in Wyoming, whichever is the higher, as published or offered by any responsible recognized purchaser for crude oil in quantity not less than 2,000 barrels a day." Delivery of royalty oil will be made in the field without cost to the Government to the successful bidder or for his account. Payments for the royalty oil are to be made to the Register of the United States Land Office, Cheyenne, Wyoming, on or before the fifteenth day of each month following that in which delivery is made. The quantity and quality of the oil will be determined by tank measurement and suitable tests, the measured quantity will be corrected for impurities in excess of one-half of one per cent, and the volume computed in terms of standard barrels at 60° F. Each bidder must submit with his bid a bond in the sum of $1,000 or a certified check payable to the order of the Secretary of the Interior in the sum of $1,000 as a guarantee that he will, if successful, promptly execute a satisfactory contract and furnish a bond in the sum of at least $250,000, conditioned upon full and complete compliance with the terms of the contract. The Secretary of the Interior may accept the offer of the highest bidder and/or bidders and reserves the right to reject all bids whenever within his judgment the interest of the United States demands. Storage facilities are available on Naval Petroleum Reserve No. 3, Wyoming (Teapot), for approximately 1,500,000 barrels of oil. Information in regard thereto may be obtained from the Secretary of the Navy. Sealed bids are to be submitted to the Secretary, Department of the Interior, Washington, D. C., the envelope to be marked plainly "Bid on Salt Creek royalty oil." No bid received after the time herein fixed for submitting bids will be considered. Ray Lyman Wilbur, Secretary of the Interior. October 21, 1931. (P. N. 57694)

PATENTS *Write for Free Book*
MUNN & CO.
Associated since 1846 with the Scientific American
514 Scientific American Bldg., *Washington, D. C.*
1551 Scientific American Building,
24 West 40th Street, *New York City*
1303 Tower Building, *Chicago, Ill.*
695 Hobart Building, *San Francisco, Calif.*
311 Van Nuys Bldg., *Los Angeles, Calif.*

HEYDRICK'S NEW MAP
East Texas Field
Accurate and up-to-date.
Scale, 2,000 feet 1 inch.
Cloth $17.50; paper $10; Size 3½x8 feet
HEYDRICK MAPPING COMPANY
Wichita Falls, Texas

NOW is the Time to Stop Losses

with WIGGINS PONTOON ROOFS

O&GJ 11-5 Gray

OIL company executives have probably never seen a time when it was so vital to stop unnecessary losses as now. One of the heaviest and most easily preventable types of loss is that caused by the evaporation of stored oil and the occasional fire which consumes both oil and other property.

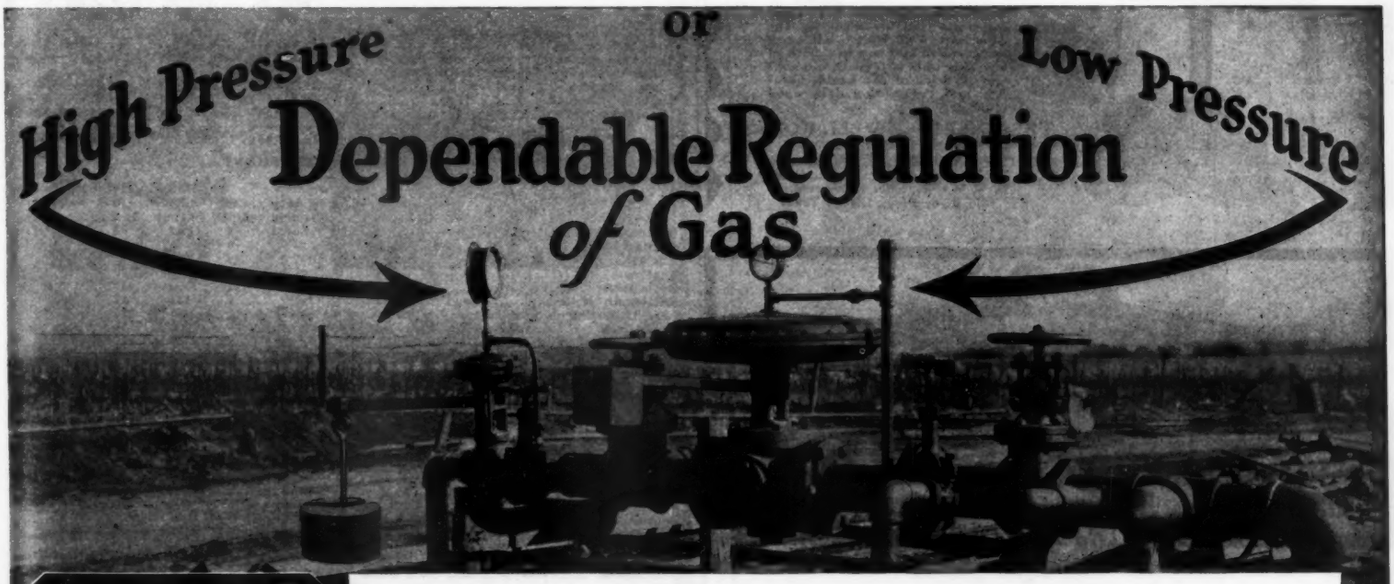
The demand for Wiggins Roofs demonstrates that many of the leaders in the industry not only recognize that fact but are doing something about it. The application of an improved Wiggins Pontoon Roof to any tank is a simple matter, and it effectively stops fire and evaporation losses.

Without any operation or any outside equipment, this roof safeguards the oil by riding directly on its surface at all levels and preventing the contact of air with the oil. The design of this Pontoon roof makes it non-sinkable and its effectiveness is further increased, particularly in hot climates, by the insulation of the gas space in the seal and the adjacent oil surface. The Wiggins seal with its unique narrow slot principle has been in use for more than eight years and has demonstrated by its service all over the world that it does prevent loss of vapor and reduces fire hazard in the annular space between the floating deck and the tank shell.

Our nearest office will give you full information and quotations on this new type of roof for all working tanks. We will also appreciate your inquiries for Horton tanks and any oil industry plate work.

CHICAGO BRIDGE & IRON WORKS

Dallas	1241 Burt Bldg.	Cleveland	2204 Midland Bank Bldg.
Houston	1119 Electric Bldg.	New York	3147 Hudson Terminal Bldg.
Tulsa	2406 Exchange Bank Bldg.	Philadelphia	2615 "1616" Walnut St. Bldg.
Birmingham	1536 Fiftieth St., N.	Boston	1517 Consolidated Gas Bldg.
Chicago	2128 Old Colony Bldg.	San Francisco	1054 Rialto Bldg.
Detroit	1514 Lafayette Bldg.	Los Angeles	1323 Pacific Mutual Bldg.



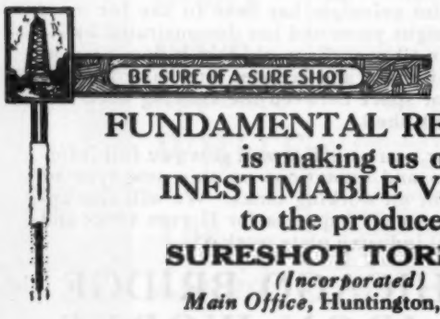
C-F

GAS REGULATORS, to be dependable, must be able to cope with many varying factors. With quality of workmanship, of design and of materials there can be no safe compromise. Regulators of proven merit in these, and in all other characteristics that influence their ability to function reliably under all sets of possible conditions, are the only kind of regulators that can satisfy in all services entrusted to their efficiency. This leads to C-F Regulation—the standard control system for natural gas in all fields.

Literature is available covering 40 different C-F Regulators and practically every type of service.

The Chaplin-Fulton Manufacturing Co.
28-40 Penn Ave.
Pittsburgh Pennsylvania

TEXAS ELECTRIC STEEL
SUCKER RODS
HEAT TREATED
10% Greater Tensile Strength
10% to 30% Longer Life
A Complete Line of Oil Field Pumping Equipment
TEXAS STEEL COMPANY
FORT WORTH, TEXAS



CALL OUR NEAREST SHOOTER
FUNDAMENTAL RESEARCH
is making us of
INESTIMABLE VALUE
to the producer
SURESHOT TORPEDO
(Incorporated)
Main Office, Huntington, W. Va.

PICTURED is an "American" No. 4-A Oil Well Pumping Unit, one of the most popular of the complete line of oil well pumping units that are made by The American Well Works. All gears are enclosed and run in a bath of oil. This unit is used throughout the oil fields of the world. Catalogs and engineering data upon request.
THE AMERICAN WELL WORKS
General Offices AURORA, ILLINOIS and Dallas
C. S. CARTER, Sales Representative
711 Thompson Bldg., Tulsa, Okla.
D. V. MANN, Sales Representative
1311 Kirby Bldg., Dallas, Texas

KLEIN TONGS
as we make them are of the best material—strong and good grippers. We ask a trial to convince you that we manufacture the best tongs on the market.
The Columbus Forge & Iron Co.
Mfgrs. of Superior Forged Pipe Tongs, Oil Well Tool Wrenches, Box and Pin Forgings, Hooks, Vises, Wrought Anvils, etc.
COLUMBUS, OHIO

Read the Classified Bargains on pages 76 and 77 of this week's issue.

CALIFORNIA OIL FIELD OPERATIONS FOR SEPTEMBER

According to figures collected by the American Petroleum Institute, Pacific Coast office, the total production of crude oil in California for September amounted to 15,180,610 bbls., an average of 506,020 bbls. per day. This is an increase of 569 bbls. per day over August production.

Total stocks of crude and all products in Pacific Coast territory decreased during the month 2,214,337 bbls. The total stocks at the end of the month were 168,777,964 bbls. The total stock decrease for 1931, up to September 30, was 12,255,177 bbls.

Eleven wells were completed during the month with an initial daily production of 7,911 bbls., compared with 10 wells completed during August with an initial production of 8,510 bbls.

CRUDE PETROLEUM PRODUCTION

(Figures of production and stocks are in barrels of 42 gallons)

	Bbls. per month	Daily average Sept., 1931	Aug., 1931	Sept., 1930
Group No. 1—				
Coalinga	231,709	7,710	7,615	9,131
Elk Hills	367,828	12,261	12,190	17,855
Fruitvale	71,359	2,379	2,291	2,341
Kern River	308,628	10,288	10,660	12,704
Kettleman Hills	1,854,499	61,817	63,387	22,027
Lost Hills-Belridge	279,917	9,330	9,391	2,258
McKittrick	55,600	1,853	1,895	4,009
Midway-Sunset	1,481,050	49,368	49,933	61,531
Mount Poso	272,674	9,089	9,026	9,581
Round Mountain	22,968	766	452	4,124
Wheeler Ridge	15,741	525	499	591
Group No. 2—				
Capitan	.....	.....	.....	.....
Elwood	769,367	25,646	26,201	37,588
Rincon	56,084	1,869	1,945	2,569
Santa Barbara	16,736	560	255	60
Santa Maria	84,380	2,813	3,072	2,968
Summerland	4,539	151	168	251
Ventura Avenue	1,208,796	40,293	39,732	46,635
Ventura-Newhall	101,819	3,394	3,239	4,896
Watsonville	1,875	63	62	63
Group No. 3—				
Coyote	308,379	10,279	10,501	10,868
Domingues	318,447	10,615	11,082	9,954
Fullerton (Brea Olinda)	292,236	9,741	9,480	11,542
Huntington Beach	596,005	19,867	20,548	28,958
Inglewood	413,175	13,773	13,770	17,054
Lawndale	11,199	379	366	259
Long Beach	2,378,742	79,291	75,931	100,418
Los Angeles-Salt Lake	34,673	1,156	1,150	1,560
Montebello	189,625	6,321	6,390	7,099
Newport	387	13	.. ..	40
Playa Del Rey	667,588	22,254	22,550	19,284
Potrero	35,597	1,190	870	2,002
Richfield	188,521	6,284	6,361	9,057
Rosecrans	102,266	3,409	3,264	6,423
Santa Fe Springs	1,870,635	62,355	62,294	101,957
Seal Beach	348,944	11,632	11,768	18,899
Torrance	178,249	5,975	5,890	11,235
Whittier	39,328	1,311	1,312	1,402
Total	15,180,610	506,020	505,451	599,477
August	15,668,984	505,451	.....	.....
Increase	*488,374	569		

*Decrease.

PACIFIC COAST TERRITORY PETROLEUM STOCKS

	Sept. 30, 1931	Aug. 31, 1931	Sept. stock decreases	Sept. 30, 1930
Heavy crude, heavier than 20° A.P.I., including all grades fuel	102,809,871	103,500,821	690,950	110,959,288
Refinable crude, 20° A.P.I., and lighter	40,345,887	40,847,900	502,013	42,207,293
Finished gasoline, engine distillate and natural gasoline	15,073,125	15,314,404	241,279	15,906,323
Naphtha distillates	2,809,534	3,293,557	484,023	2,492,093
All other stocks	7,739,547	8,035,619	296,072	8,868,965
Total all stocks	168,777,964	170,992,301	2,214,337	180,435,962

OIL FIELD DEVELOPMENT

	New rigs up	Active drlg.	Completed	Daily initial output	Active Producing	Abnd. wells Drillers	Abnd. wells Producers
Group No. 1—							
Buttonwillow gas field	0	2	1	gas	0	0	0
Coalinga	0	0	0	0	626	0	0
Elk Hills	0	0	0	0	193	0	0
Fruitvale	0	0	1	410	19	0	0
Kern River	3	0	2	350	942	0	0
Kettleman Hills	3	9	1	5,421	21	0	0
Lost Hills-Belridge	0	5	1	585	182	0	0
McKittrick	0	1	0	0	130	0	0
Midway-Sunset	0	0	0	0	1,757	0	1
Mount Poso	0	2	0	0	69	0	0
Round Mountain	0	0	0	0	5	0	0
Wheeler Ridge	0	0	0	0	34	0	0
Group No. 2—							
Capitan	0	0	0	0	0	0	0
Elwood	2	3	0	0	47	0	0
Goleta gas field	0	2	0	0	2	0	0
Rincon	0	1	1	170	34	0	0
Santa Barbara	1	1	0	0	4	0	0
Santa Maria	0	1	0	0	171	1	0
Summerland	0	0	0	0	72	0	0
Ventura Avenue	0	9	0	0	140	0	0
Ventura-Newhall	0	5	0	0	387	1	0
Watsonville	0	0	0	0	6	0	0
Group No. 3—							
Coyote	2	0	0	0	157	0	15
Domingues	1	4	0	0	54	0	0
Fullerton	0	1	0	0	338	1	0
Huntington Beach	0	1	0	0	306	0	0
Inglewood	1	1	0	0	295	0	0
Lawndale	0	0	0	0	7	0	0
Long Beach	1	17	0	0	865	2	1
Los Angeles-Salt Lake	0	0	0	0	260	0	0
Montebello	0	2	0	0	169	0	0
Newport	1	2	1	125	1	0	0
Playa Del Rey	0	2	1	50	174	1	1
Potrero	1	0	1	750	10	1	0
Richfield	0	0	0	0	146	0	0
Rosecrans	0	0	0	0	66	1	2
Santa Fe Springs	0	1	0	0	425	0	0
Seal Beach	0	1	1	50	77	0	0
Torrance	0	0	0	0	344	0	0
Whittier	0	0	0	0	172	0	0
Miscellaneous drilling	2	74	0	0	0	7	0
September	18	147	11	7,911	6,617	15	23
August	17	149	10	8,510	6,713	24	29
Decrease	*1	2	*1	599	95	9	*6

*Increase.

Greatly Improved M-S-A HOSE MASKS

At No Increase in Prices

Afford wearer Complete Protection in Poisonous Gases and Oxygen Deficient Atmospheres. Widely used for entering and working in Tank Cars, Oil Tanks, Shipholds, Gas Holders, Sewers, Etc.

Bulletin No. 66 Gives Complete Information

SEND FOR COPIES

Mine Safety Appliances Co

Braddock, Thomas and Meade Sts., Pittsburgh, Pa.

"EVERYTHING FOR MINE AND INDUSTRIAL SAFETY"

PICKERING 1862 · 1931

This may be the factor that decides

When one Engine is selected over another, often times its equipment is the deciding feature.

The trade mark of Pickering Governors is well known and highly regarded the world over.

Those exporting should seriously consider what this acceptance means for their products.

THE PICKERING GOVERNOR CO.,
PORTLAND, CONN.

PICKERING GOVERNORS

Use this low-cost method for salvage work!

CLEANING tools, fittings, valves and parts, preparatory to reconditioning, is never a laborious and costly operation when Oakite materials and methods are used.

A short boil in a solution of an Oakite material usually does the job! No matter how dirty the pieces to be reclaimed may be, how heavily encrusted with oil and dirt . . . they come out clean to the metal. Hundreds of parts can be cleaned at one time. Hand scrubbing and scraping are practically eliminated.

For complete information on this and other money-saving Oakite methods, get in touch with our nearest Service Man. No obligation.

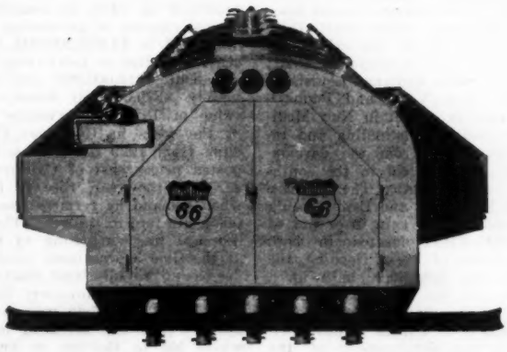
Oakite Service Men, cleaning specialists, are located in the leading industrial centers of the U. S. and Canada.

Manufactured only by
OAKITE PRODUCTS, INC., 44C Thames Street, NEW YORK, N. Y.

OAKITE

TRADE MARK REG. U.S. PAT. OFF.

Industrial Cleaning Materials and Methods



LEADER ALL-STEEL TRUCK TANK

—with steel underframe, sills and bolsters; steel bucket box and steel can racks; separable compartments; tank and piping unit independent of mounting; all welding by electric arc process; beautifully finished and serviceable "until the steel itself wears out".

SEND for Bulletin 102-T or write for more information.

LEADER IRON WORKS, INC.

2130 N. JASPER ST. DECATUR, ILLINOIS

Bureau of Mines Annual Report for 1930

According to final figures compiled by the Bureau of Mines, Department of Commerce, from the annual canvass of producing and pipe line companies, the production of crude petroleum in the United States during 1930 amounted to 898,011,000 bbls. This figure represents a decline from the previous year of 10.9 per cent and is slightly below the output of both 1928 and 1927. Stocks of all oils declined 24,000,000 bbls. during 1930, a marked contrast to the trend in 1929, when these stocks were increased 68,156,000 bbls. The daily average indicated domestic demand for all oils in 1930 amounted to 2,538,000 bbls., a decline from the previous year of 38,000 bbls. This decrease in demand was principally a reflection of the decline in crude runs to stills.

Crude Petroleum

The production of crude petroleum remained virtually stationary during the first half of the year, with the results of the various curtailment programs balancing the increasing demand for crude by refiners. During the last half of the year marked progress was made in restricting the output of the flush fields and output declined in line with the falling off in crude runs to stills.

Declining prices and the general curtailment program served to restrict drilling, with the result that the number of oil wells brought in declined from 15,572 in 1929 to 11,640 in 1930. However, the average daily initial output of the 1930 completions established a new record, with the result that the potential crude oil production also rose to a new high level.

Texas Leading Producer

Texas was again the leading producing State in 1930, with an output of 290,457,000 bbls. Production in California fell off materially, coincident with the decline in the flush output in the Santa Fe Springs and Long Beach Fields. However, the State retained second place ahead of Oklahoma which held third place. Practically all of the other producing states declined in output in 1929; the exceptions were Indiana, Louisiana, New Mexico, New York, and Pennsylvania. The gain in output in New Mexico was particularly outstanding and resulted almost solely from the development of the Hobbs Field in the southeast corner of the State. The increase in output in New York and Pennsylvania was due largely to the gain in output of the Bradford Field, located in both States. By means of water flooding, the operators of this field have built up a sizeable potential, but the actual takings are limited by the market demand. The gain in output in Louisiana resulted primarily from the development of the Zwolle Field. The material decline in output in Oklahoma was due almost solely to the drop in production in the Seminole district. The decline in production in the other fields of Oklahoma was partially offset by the gain in output of the Oklahoma City Field which under rigid proration yielded 34,603,000 bbls. in 1930 as compared with 8,710,000 bbls. in 1929. West Texas, the leading producing district in Texas, registered a decline in output of approximately 25,000,000 bbls. in 1930, but this was almost offset by new production obtained from extensions in the Gulf Coast fields and from the Darst Creek Field of Guadalupe County. Production in Kansas, the fourth ranking State, fell off but slightly in 1930 as the new discoveries about balanced the decline in the old fields. Production in Wyoming continued to fall as Salt Creek, the principal field, continued to decline.

Imports Declined

Imports of crude petroleum declined for the second successive year; the total brought in amounted to 62,129,000 bbls. in 1930 as compared with 78,933,000 bbls. in 1929. The major portion of the foreign crude brought in during 1930 originated in Venezuela, although Colombia was the only country to show an increase in this trade over 1929.

Crude Stocks Reduced

The trend in crude stocks was reversed in 1930, when there was a net withdrawal, the first since 1926. Total stocks east of California, including producers' stocks, fell from 387,396,000 bbls. on hand January 1, 1930, to 368,484,000 bbls. on hand at the end of the year. Stocks of light crude in California showed little change but stocks of heavy crude and fuel oil fell off over 3,500,000 bbls. following the closing in of the wells in many of the fields producing low gravity oil.

The total value of the crude petroleum produced in 1930, as compiled from a special canvass of purchasing companies, amounted to $1,070,200,000. This represents a decline in total value from 1929 of about $210,000,000 and is approximately $375,000,000 below the record value of 1926. The average price paid at the wells in 1930 was $1.19, a decline from 1929 of 8 cents. In general, posted prices east of California fell off early in the year, rose in late spring, when demand by refiners was brisk, but fell again late in the year. The last price decrease was surprising to many since at the time it was made production was decreasing rapidly and stocks were being drawn on. However, the gasoline market at that time was depressed by heavy stocks and declining consumption which led to the cut in crude prices, first by the small refiners, then by the major buyers. Crude prices in California were comparatively steady in 1930; in fact, the price of most grades at the end of the year was higher than at the beginning. The producers of New York received the highest average price for their crude in 1930—$2.70 per barrel; those in West Texas, the lowest—80 cents per barrel.

A canvass of the companies which operate gathering lines showed that there were 331,070 producing wells on December 31, 1930. This compares with 328,200 wells producing as of the first of the year. Oklahoma and Texas showed the largest gain in number of producing wells in 1930; California, the greatest loss. The average production per well per day during 1930 amounted to 7.5 bbls., which compares with an average of 8.4 bbls. in 1929. The wells in West Texas continued to have the highest average output in 1930, although they fell considerably below their 1929 record.

Refined Products

Runs to stills of crude petroleum in 1930 amounted to 927,447,000 bbls., of which 866,615,000 bbls., or 93 per cent, was domestic crude, and 60,832,000 bbls., or 7 per cent, was foreign crude. In comparison with 1929, these figures represent declines in use of both types of crude with the largest percentage decrease affecting foreign crude. The major portion of the decline in use of domestic crude occurred in California, whereas the drop in the foreign crude oil processed occurred at refineries on the Atlantic Seaboard. There was a marked contrast between the monthly record of crude runs to stills in 1930 as compared with 1929. In 1929 crude runs reached their peak in August and at the end of the year were at a higher level than on January 1, but in 1930 crude runs were at their highest levels in May and the December total was considerably under that of January. This indicates that a greater effort was made in 1930 to limit the amount of crude processed in order to prevent the overproduction of gasoline.

The production of motor fuel in 1930 amounted to 440,728,000 bbls., a slight gain over the previous year. Because of the decline in runs to stills, this increase in gasoline output was due solely to a further gain in yield which rose from 44 per cent in 1929 to 46.6 per cent in 1930. The chief factor in the increase in gasoline recovery in 1930 was the gain in the use of cracking equipment. The production of gasoline by cracking in 1930 amounted to 164,443,000 bbls., a gain over the previous year of 14.4 per cent and the equivalent of 38 per cent of the total output as compared with 33 per cent in 1929. Imports of gasoline in 1930 amounted to 16,027,000 bbls., or nearly double the previous year. The indicated domestic demand for motor fuel in 1930 totaled 394,800,000 bbls., a new record. However, this represents a gain over the previous year of only 5 per cent as compared with an average annual increase over the past 10 years of 14.5 per cent. Exports of gasoline held up well in 1930, amounting to 65,575,000 bbls. as compared with 62,059,000 bbls. in 1929. After the first few months of the year, when gasoline stocks rose to record levels, the refiners gave considerable attention to reducing their gasoline inventories, with the result that stocks at the end of the year, 40,541,000 bbls., was nearly 3,000,000 bbls. below the total on hand at the beginning of the year. In spite of this improvement, this total was considered too high by approximately 10,000,000 bbls. and plans were made to further reduce it in 1931. Although motor fuel stocks at the end of 1930 were lower than at the close of 1929, the low point in 1930 was approximately 5,000,000 bbls. above the low point in 1929. This served to depress the gasoline market at the time of greatest consumption.

The trade in kerosene continued to decline in both domestic and foreign markets. Stocks of kerosene were reduced during 1930, this being about the only encouraging feature of the year. Production of gas oil and fuel oil declined materially following the curtailment in crude runs and the increase in cracking. The production of lubricants was practically unchanged but both the domestic and foreign demand fell off and stocks increased. The trend in the statistics of wax followed closely that of lubricants, the chief difference being that the decline in wax production was much greater.

Natural Gasoline

The production of natural gasoline declined to 2,210,500,000 gallons as compared with 2,233,700,000 gallons the previous year. This represents the first annual decline ever recorded by that industry. In general, this decline in output was closely related to the decrease in crude oil production, but specifically it was due largely to the drop in production in the Seminole district. The most notable increases in output of natural gasoline in 1930 were obtained in the Kettleman Hills, Panhandle and Oklahoma City Fields. California continued to be the leading natural gasoline producing State, with Oklahoma second and Texas third. The trend in stocks of natural gasoline was influenced by the decline in output and the fluctuations of 1929 were lacking.

IMPORTS AND EXPORTS OF CRUDE PETROLEUM IN 1930, BY MONTHS*

(Thousands of barrels of 42 U. S. gallons.)

	January	February	March	April	May	June	July	August	September	October	November	December	1930	1929
Imports	5,450	4,321	4,827	5,781	4,984	5,767	5,877	5,059	5,808	5,061	4,467	4,727	62,129	78,933
From Venezuela	3,606	2,706	2,897	3,413	2,724	3,322	3,531	2,332	3,139	2,458	2,371	2,581	35,080	50,653
From Mexico	435	418	489	630	817	1,190	1,246	1,271	995	1,043	887	672	10,093	12,663
From Colombia	1,181	937	1,380	1,520	1,002	1,144	987	1,176	1,449	1,190	1,098	1,140	14,204	12,620
From Peru	166	212	.....	.....	332	.....	.....	166	100	140	.....	165	1,281	1,454
From other countries	62	48	61	218	109	111	113	114	125	230	111	169	1,471	1,543
Exports	1,808	1,731	1,944	1,900	2,202	2,508	1,973	2,407	1,961	2,167	1,765	1,339	23,705	26,401
To Canada	1,289	1,438	1,379	1,429	1,809	2,073	1,643	1,935	1,722	1,675	1,443	1,132	18,967	22,412
To other countries	519	293	565	471	393	434	330	472	239	492	322	207	4,737	3,982
Shipments	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	7
California crude oils†	752	603	873	817	753	749	577	732	454	592	923	547	8,372	7,907

*From Bureau of Foreign & Domestic Commerce. †Included in total exports of domestic crude.

SHIPMENTS FROM CALIFORNIA TO EASTERN PORTS IN THE UNITED STATES IN 1930, BY MONTHS*

(Thousands of barrels of 42 U. S. gallons.)

	January	February	March	April	May	June	July	August	September	October	November	December	1930	1929
Crude oil	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,299
Gasoline	1,448	1,512	943	1,375	1,343	2,405	2,163	1,762	1,634	1,433	1,179	1,276	18,473	
Natural gasoline	221	73	130	129	89	144	71	72	72	342	144	226	1,713	23,483
Kerosene	50	49	.....	.....	.....	81	.....	.....	.....	.....	18	80	278	229
Gas oil	320	451	243	309	333	65	524	157	272	605	520	342	4,141	3,724
Diesel oil	.....	65	79	.....	.....	64	.....	.....	.....	.....	.....	.....	208	140
Fuel oil	3	4	3	3	3	4	3	2	2	3	5	3	38	179
Lubricants	.....	39	30	2	37	1	8	4	1	4	12	3	131	182
Asphalt	2	3	2	1	2	1	1	1	2	2	2	1	20	25
Total refined	2,044	2,186	1,430	1,819	1,807	2,765	2,770	1,998	1,983	2,389	1,880	1,931	25,002	27,965
Total all oils	2,044	2,186	1,430	1,819	1,807	2,765	2,770	1,998	1,983	2,389	1,880	1,931	25,002	29,264

*Compiled by E. T. Knudsen of the San Francisco office of the Bureau of Mines.

(Continued on Next Page)

PRODUCTION AND STOCKS AT REFINERIES IN THE UNITED STATES, 1930

(Thousands of barrels of 42 U. S. gallons, except wax, coke, and asphalt.)

	Runs to stills: Domestic crude	Runs to stills: Foreign crude	Natural gasoline	Gasoline	Kerosene	Gas oil, etc.	Residual fuel oil	Lubricants	Wax (thousands of pounds)	Coke (tons)	Asphalt (tons)	Road oil	Miscellaneous	Unfinished oil produced (net)	Shortage
East Coast	115,287	57,033	2,223	62,812	7,336	19,289	60,979	10,156	209,720	156,000	1,504,500	595	451	*4,151	7,257
Appalachian	52,056	.....	590	14,914	3,798	2,158	2,776	5,084	101,920	39,400	55,500	10	362	*56	1,729
Ind., Ill., Ky., etc.	109,519	.....	2,925	63,930	4,552	9,188	19,394	4,180	48,440	597,800	606,600	1,450	2,798	*833	1,227
Okla., Kans., and Mo.	110,989	.....	5,077	62,929	8,229	5,046	25,971	2,960	33,880	360,100	28,900	490	1,138	1,819	5,369
Texas	314,262	1,050	12,627	101,707	12,674	16,309	65,520	8,012	53,480	491,500	194,200	145	246	6,874	12,686
La. and Ark.	58,745	2,749	4,136	28,699	5,339	7,664	16,962	811	76,440	138,000	432,700	184	1,568	*1,406	2,451
Rocky Mountain	20,929	.....	1,543	13,199	971	897	4,710	485	23,800	131,000	2,000	457	258	115	618
California	204,828	.....	†14,049	84,051	6,309	21,000	93,635	2,513	.....	26,200	483,600	2,094	933	*120	5,667
Total	866,615	60,832	43,170	432,241	49,208	81,551	290,947	34,201	547,680	1,940,000	3,308,000	5,425	7,754	2,242	37,003
Texas Gulf Coast	153,862	1,050	9,762	73,536	9,971	12,587	40,731	7,662	51,240	396,600	194,200	145	37	7,248	9,483
La. Gulf Coast	38,086	2,749	2,742	20,592	4,543	4,994	9,061	644	76,440	135,800	337,400	.....	1,485	*1,505	941
January	75,050	5,113	3,490	35,776	4,489	6,669	26,173	2,880	52,360	145,500	214,700	293	536	1,663	3,064
February	67,923	4,491	3,333	33,207	4,398	6,079	25,163	2,727	50,960	139,600	194,400	259	462	*1,210	2,699
March	75,662	4,590	3,454	36,885	4,752	6,232	26,004	3,120	61,320	160,600	223,100	357	398	929	2,894
April	75,423	5,011	3,600	37,289	4,435	6,305	25,799	3,193	54,040	150,600	272,900	316	487	767	2,981
May	78,029	5,618	3,367	38,519	4,317	7,139	26,588	3,185	45,920	175,700	348,900	487	572	242	2,986
June	75,494	5,252	3,361	36,529	4,026	6,953	23,953	2,920	43,680	163,000	353,900	811	835	1,965	3,182
July	73,239	5,405	3,786	37,240	3,929	6,726	24,422	3,018	45,640	161,200	340,000	910	800	*893	3,423
August	73,655	5,634	3,729	37,093	3,975	6,831	23,031	2,971	39,760	172,100	352,300	887	796	861	3,615
September	71,042	4,908	4,024	36,495	3,846	7,051	22,813	2,723	43,960	170,200	311,100	613	772	*405	3,330
October	68,743	5,273	3,824	36,513	3,876	7,167	22,642	2,546	38,080	177,300	312,400	292	680	*1,950	3,316
November	65,466	4,844	3,569	32,867	3,590	7,182	21,872	2,409	35,840	158,100	216,500	166	745	115	2,807
December	66,889	4,692	3,603	33,828	3,575	7,217	22,487	2,509	36,120	166,100	167,800	134	671	158	2,706
STOCKS END OF MONTH:	(‡)						(‡)								
January	38,909	5,599	1,912	49,712	8,571	14,992	20,881	8,956	204,209	740,500	285,900	173	556	46,214	.....
February	39,420	6,158	2,161	53,217	8,565	13,229	21,041	9,289	211,777	755,600	288,700	192	552	45,004	.....
March	39,374	6,551	2,239	55,228	8,455	13,184	19,814	9,561	230,734	785,600	302,200	292	535	45,933	.....
April	40,496	6,656	2,237	54,422	8,068	13,988	19,662	9,549	241,853	831,700	294,100	333	552	46,700	.....
May	41,740	5,750	2,417	54,096	8,384	15,721	20,943	9,498	248,524	899,900	316,800	398	525	46,942	.....
June	41,307	5,465	2,384	50,107	8,352	17,149	21,153	9,742	249,748	928,700	312,000	503	485	48,907	.....
July	41,868	5,272	2,696	45,715	8,319	17,380	21,747	9,953	254,999	991,200	310,700	384	447	48,014	.....
August	42,022	4,763	2,261	41,412	8,030	18,332	21,397	10,161	254,990	1,035,400	315,800	415	478	48,875	.....
September	40,692	4,753	2,037	38,182	7,771	19,371	22,109	10,257	248,940	1,088,800	269,600	307	554	48,470	.....
October	41,430	4,602	1,797	38,612	7,633	19,258	22,035	10,502	240,060	1,080,400	267,100	287	591	46,520	.....
November	39,305	4,152	1,784	38,692	7,379	18,444	21,983	10,536	237,027	1,096,600	294,700	229	501	46,635	.....
December	37,283	3,853	1,799	40,529	6,883	16,390	20,617	10,971	232,592	1,069,100	307,800	189	530	46,793	.....

*Represents excess unfinished oils rerun. †Includes 1,669,000 barrels natural gasoline turned into pipe lines. ‡East of California.

GASOLINE STATISTICS IN 1930, BY MONTHS

(Thousands of barrels of 42 U. S. gallons.)

	January	February	March	April	May	June	July	August	September	October	November	December	1930	1929
TOTAL PRODUCTION:														
East Coast	5,587	4,665	5,194	5,245	5,499	4,951	4,944	5,354	5,219	5,598	5,059	5,497	62,812	57,851
Appalachian	1,229	1,189	1,322	1,332	1,408	1,187	1,231	1,302	1,209	1,154	1,201	1,150	14,914	16,061
Ind., Ill., Ky., Mich., etc.	5,558	4,906	6,022	6,001	5,912	5,624	5,498	5,339	5,318	4,838	4,276	4,638	63,930	65,102
Oklahoma, Kansas, and Missouri	4,866	4,563	5,343	5,685	5,835	5,555	5,551	5,231	5,264	5,311	4,855	4,870	62,929	62,235
Texas	7,768	7,970	8,540	8,647	9,052	8,326	8,906	8,963	8,674	8,794	7,919	8,148	101,707	93,589
Louisiana and Arkansas	2,554	2,544	2,635	2,477	2,514	2,337	2,270	2,360	2,249	2,330	2,302	2,127	28,699	31,093
Rocky Mountain	1,080	1,092	1,233	1,204	1,250	1,238	1,205	1,159	1,082	956	864	836	13,199	16,431
California	7,134	6,278	6,596	6,698	7,049	7,311	7,635	7,385	7,480	7,532	6,391	6,562	84,051	92,716
Total	35,776	33,207	36,885	37,289	38,519	36,529	37,240	37,093	36,495	36,513	32,867	33,828	432,241	435,078
Texas Gulf Coast	5,748	5,967	6,290	6,257	6,498	5,869	6,297	6,370	6,211	6,460	5,696	5,873	73,536	71,003
Louisiana Gulf Coast	1,901	1,890	1,814	1,688	1,834	1,712	1,578	1,701	1,591	1,666	1,641	1,576	20,592	22,818
STOCKS END OF PERIOD:														
East Coast	7,444	8,074	9,132	9,181	8,848	7,814	6,977	6,373	5,425	5,715	5,560	5,773	5,773	6,063
Appalachian	1,619	1,859	2,125	2,037	1,969	1,803	1,651	1,403	1,168	957	996	1,195	1,195	1,383
Ind., Ill., Ky., Mich., etc.	7,139	8,010	8,832	8,864	8,665	8,249	7,156	6,145	5,462	4,618	4,330	4,288	4,288	5,634
Oklahoma, Kansas, and Missouri	4,947	5,248	5,124	5,008	5,475	5,170	4,328	3,499	3,086	2,903	2,908	3,370	3,370	4,123
Texas	7,610	8,046	8,208	7,868	7,554	6,898	7,174	6,853	5,738	6,642	6,573	6,729	6,729	6,648
Louisiana and Arkansas	2,373	2,721	2,661	2,677	2,551	2,396	1,717	1,283	1,104	1,070	1,241	1,638	1,638	2,145
Rocky Mountain	2,671	2,990	3,168	2,902	2,881	2,823	2,472	2,100	1,896	1,681	1,615	1,752	1,752	2,334
California	15,909	16,269	15,978	15,885	16,153	14,954	14,240	14,256	14,303	15,026	15,469	15,784	15,784	14,915
Total	49,712	53,217	55,228	54,422	54,096	50,107	45,715	41,412	38,182	38,612	38,692	40,529	40,529	43,245
Texas Gulf Coast	6,158	6,501	6,719	6,285	5,707	4,920	4,928	4,165	3,757	4,832	4,786	4,917	4,917	5,313
Louisiana Gulf Coast	2,044	2,410	2,307	2,312	2,139	1,989	1,369	957	858	820	965	1,413	1,413	1,838
PRODUCTION BY CRACKING:														
East Coast	2,777	2,386	2,527	2,602	2,669	2,399	2,299	2,566	2,630	2,766	2,415	2,686	30,722	25,790
Appalachian	382	405	470	416	484	391	420	471	447	405	438	401	5,130	5,390
Ind., Ill., Ky., Mich., etc.	2,429	1,996	2,538	2,630	2,657	2,535	2,621	2,633	2,588	2,297	2,197	2,269	29,390	27,348
Oklahoma, Kansas, and Missouri	1,688	1,598	1,835	1,895	2,072	2,062	1,976	1,901	1,951	1,964	1,764	1,835	22,541	20,953
Texas	3,002	2,966	3,496	3,333	3,695	3,255	3,572	3,778	3,514	3,745	3,371	3,735	41,462	35,481
Louisiana and Arkansas	989	1,045	1,042	1,018	1,199	1,076	1,030	1,114	1,087	1,176	1,234	1,087	13,097	10,046
Rocky Mountain	479	456	540	491	563	560	580	545	514	394	361	373	5,856	7,112
California	1,264	1,100	1,046	1,053	1,203	1,397	1,588	1,458	1,547	1,680	1,408	1,501	16,245	11,607
Total	13,010	11,952	13,494	13,438	14,542	13,675	14,086	14,466	14,278	14,427	13,188	13,887	164,443	143,727
Percent of total	36.4	36.0	36.6	36.0	37.8	37.4	37.8	39.0	39.1	39.5	40.1	41.1	38.0	33.0
Texas Gulf Coast	2,522	2,451	2,775	2,658	3,043	2,610	2,826	3,036	2,806	3,074	2,792	3,085	33,678	31,448
Louisiana Gulf Coast	693	760	687	678	895	768	720	821	772	852	899	822	9,367	6,913

PRODUCTION AND INDICATED DOMESTIC DEMAND OF CRUDE PETROLEUM IN THE UNITED STATES IN 1930, BY FIELDS OF ORIGIN

(Thousands of barrels of 42 U. S. gallons.)

	January	February	March	April	May	June	July	August	September	October	November	December	1930	1929
PRODUCTION:														
Appalachian:														
Pennsylvania grade	2,180	2,127	2,273	2,398	2,438	2,130	1,899	1,627	1,755	1,932	1,727	1,757	24,243	23,736
Other (incl. Kentucky)	871	798	824	852	869	816	895	818	830	828	711	750	9,862	10,088
Lima-N. E. Ind.-Mich.	521	506	495	485	464	467	482	412	367	369	342	366	5,276	6,075
Ill.-S. W. Ind.	561	558	609	598	627	598	620	611	478	498	445	474	6,677	7,237
Mid-Continent:														
N. La. and Ark	2,826	2,806	3,048	3,002	2,785	2,908	2,937	2,857	2,747	2,865	2,729	2,854	34,364	38,017
West Texas-S. E. New Mexico	10,663	9,834	10,651	9,812	10,055	9,683	10,384	10,003	9,317	9,923	9,179	8,794	118,298	134,550
Other (Okla., Kans., N. Tex., etc.)	32,508	29,454	32,488	33,698	36,194	34,667	32,878	31,723	30,113	30,661	27,511	26,890	378,785	411,713
Gulf Coast:														
Grade A	2,365	2,613	2,740	2,621	2,590	2,528	2,631	2,519	2,474	2,402	2,221	2,206	29,910	
Grade B	3,313	2,945	3,424	3,295	3,490	3,411	3,506	3,523	3,227	3,221	3,142	3,269	39,766	57,106
Rocky Mountain*	1,927	1,844	2,050	2,026	2,046	1,901	1,941	2,021	1,975	2,002	1,892	1,876	23,501	26,267
California	21,898	20,805	19,624	18,696	18,970	17,951	18,749	18,717	17,933	18,192	18,058	17,736	227,329	292,534
Total	79,633	74,290	78,226	77,483	80,528	77,060	76,922	74,831	71,216	72,893	67,957	66,972	898,011	1,007,323
INDICATED DOMESTIC DEMAND EAST OF CALIFORNIA:														
Domestic petroleum:														
Appalachian:														
Pennsylvania grade	2,110	1,877	1,970	2,129	1,937	1,878	1,875	1,977	2,198	1,915	1,860	1,766	23,492	
Other (incl. Kentucky)	917	706	729	853	820	944	928	834	787	807	754	880	9,959	34,094
Lima-N. E. Ind.-Mich.	430	471	480	320	367	491	255	218	305	419	514	266	4,536	6,660
Ill.-S. W. Ind.	798	721	549	569	674	627	506	584	702	409	215	637	6,991	8,183
Mid-Continent:														
N. La. and Ark.	3,031	3,142	3,227	3,109	2,976	2,240	3,210	2,808	2,924	3,496	2,925	3,676	36,764	
West Texas-S. E. New Mexico	10,893	10,357	10,607	11,097	11,811	10,502	10,510	10,695	10,993	10,234	8,791	9,446	125,936	576,676
Other (Okla., Kans., N. Tex., etc.)	32,274	28,620	34,180	33,956	34,478	33,469	32,307	32,944	33,233	30,481	29,515	29,469	384,926	
Gulf Coast:														
Grade A	2,761	2,295	2,883	2,974	2,645	2,977	2,404	2,891	2,995	3,297	2,050	2,444	32,616	
Grade B	3,628	2,869	3,557	1,991	3,722	3,987	3,712	3,424	2,610	2,448	3,734	3,741	39,423	55,028
Rocky Mountain	1,929	1,740	1,977	2,074	2,013	2,217	2,010	1,975	1,718	1,934	1,668	1,424	22,679	27,145
California	28	18	24	21	18	26	36	14	16	8	.....	.....	209	.....
Total demand	58,799	52,816	60,183	59,093	61,461	59,358	57,753	58,364	58,481	55,448	52,026	53,749	687,531	707,786
Exports	1,056	1,128	1,071	1,083	1,449	1,758	1,396	1,675	1,507	1,575	842	792	15,332	18,487
Domestic demand	57,743	51,688	59,112	58,010	60,012	57,600	56,357	56,689	56,974	53,873	51,184	52,957	672,199	689,299
Foreign petroleum	5,936	3,762	4,434	5,676	5,890	6,052	6,070	5,568	5,818	5,212	4,917	5,026	64,361	79,080
Total dom. demand east of Calif.	63,679	55,450	63,546	63,686	65,902	63,652	62,427	62,257	62,792	59,085	56,101	57,983	736,560	768,379

*Includes Alaska.

(Continued on Next Page)

STOCKS OF CRUDE PETROLEUM HELD IN THE UNITED STATES IN 1930, BY MONTHS

(Thousands of barrels of 42 U. S. gallons.)

EAST OF CALIFORNIA (Reported by field of origin)	Jan. 31 1930	Feb. 28	Mar. 31	Apr. 30	May 30	June 30	July 31	Aug. 31	Sept. 30	Oct. 31	Nov. 30	Dec. 31 1930	Dec. 31 1929
At refineries:													
Pennsylvania grade	2,624	2,695	2,842	2,787	2,913	2,881	2,737	2,679	2,403	2,421	2,292	2,320	2,745
Other Appalachian (incl. Kentucky)	945	916	939	921	898	809	842	877	935	919	921	785	977
Lima-N. E. Indiana-Michigan	224	138	161	224	219	100	118	148	162	203	127	85	202
Illinois-S. W. Indiana	196	159	155	127	128	121	122	127	96	87	121	86	239
N. Louisiana and Arkansas	4,989	4,732	4,711	4,728	4,602	4,765	4,880	4,851	5,268	5,182	5,085	4,483	5,162
West Texas and S. E. New Mexico	4,621	4,646	4,569	4,160	4,732	4,854	5,166	5,286	4,866	5,010	5,412	5,311	4,424
Oklahoma, Kansas, N. Texas, etc.	16,933	17,183	16,899	17,403	17,988	18,615	19,047	18,833	17,485	18,074	16,266	15,537	17,196
Gulf Coast: Grade A	3,728	4,220	4,592	4,817	4,657	4,314	4,336	4,323	4,253	4,137	3,953	3,742	4,412
Grade B	3,016	3,043	2,821	3,650	3,742	3,181	3,050	3,299	3,402	3,671	3,449	3,241	3,141
Rocky Mountain	1,591	1,647	1,644	1,642	1,825	1,631	1,569	1,688	1,817	1,726	1,674	1,688	1,636
California	42	41	41	36	36	26	1	1	5	.. ..	5	5	45
Foreign	5,599	5,158	6,551	6,656	5,750	5,465	5,272	4,763	4,753	4,602	4,152	3,853	6,085
Total	44,508	45,578	45,925	47,152	47,490	46,772	47,140	46,785	45,445	46,032	43,457	41,136	46,307
Pipe line and tank farm:													
Pennsylvania grade	4,622	4,799	4,954	5,277	5,650	5,920	6,098	5,802	5,635	5,629	5,618	5,581	4,423
Other Appalachian (incl. Kentucky)	802	923	995	1,013	1,044	1,045	979	928	913	950	995	911	816
Lima-N. E. Indiana-Michigan	677	802	790	892	995	1,035	1,394	1,457	1,503	1,407	1,311	1,453	544
Illinois-S. W. Indiana	10,200	10,085	10,196	10,306	10,159	10,124	10,356	10,286	10,091	10,188	10,380	10,252	10,411
N. Louisiana and Arkansas	21,545	21,504	21,345	21,340	21,232	21,729	21,343	21,432	20,842	20,279	20,163	19,957	21,590
West Texas and S. E. New Mexico	53,271	52,696	52,838	52,004	49,753	48,824	48,450	47,610	46,395	45,913	45,945	45,414	53,745
Oklahoma, Kansas, N. Texas, etc.	199,286	200,044	198,476	197,787	198,703	198,970	199,198	197,871	196,271	195,787	195,577	192,768	198,349
Gulf Coast: Grade A	9,029	8,874	8,350	7,758	7,856	7,756	7,929	7,561	7,096	6,339	6,664	6,629	8,746
Grade B	11,235	11,285	11,374	11,839	11,495	11,480	11,400	11,332	11,750	12,274	11,892	11,626	11,383
Rocky Mountain	24,405	24,488	24,561	24,543	24,417	24,294	24,268	24,172	24,299	24,447	24,696	25,149	24,381
Total	335,062	335,500	333,877	332,558	331,344	331,237	331,215	328,442	324,795	323,213	323,151	320,740	334,891
Total refinery, pipe line and tank farm	379,570	381,078	379,802	379,710	378,834	378,009	378,355	375,228	370,240	369,245	366,608	361,876	381,198
Producers stocks	6,301	6,038	6,150	6,057	6,142	6,449	6,341	6,724	6,523	6,623	6,688	6,608	6,198
Total stocks east of California	385,871	387,116	385,952	385,767	384,976	384,458	384,696	381,951	376,763	375,868	373,296	368,484	387,396
California: Light	41,868	44,241	44,710	44,166	42,982	41,045	41,071	40,671	40,432	40,338	40,472	40,325	41,049
Heavy (including fuel)	107,199	107,853	107,567	105,917	105,775	105,632	104,958	104,163	103,705	102,530	103,253	103,421	107,069
Total crude (including fuel oil in California)	534,938	539,210	538,229	535,850	533,733	531,135	530,725	526,785	520,900	518,736	517,021	512,230	535,514

WELLS DRILLED FOR OIL AND GAS IN THE UNITED STATES IN 1930, BY MONTHS*

	January	February	March	April	May	June	July	August	September	October	November	December	1930	1929
Oil	1,055	976	1,080	1,209	1,349	1,197	1,042	988	781	866	657	540	11,640	15,572
Gas	231	173	194	193	205	274	232	297	289	282	231	275	2,866	2,870
Dry	526	410	606	612	655	603	572	681	542	548	494	477	6,726	7,914
Total	1,812	1,559	1,870	2,014	2,109	2,074	1,846	1,966	1,612	1,696	1,382	1,292	21,232	26,356

*From The Oil and Gas Journal and California office of the American Petroleum Institute.

COMPARATIVE ANALYSES OF THE MAJOR REFINED PRODUCTS IN 1930, BY MONTHS

(Thousands of barrels of 42 U.S. gallons, except for wax)

	January	February	March	April	May	June	July	August	September	October	November	December	1930	1929
MOTOR FUEL:														
Production	36,350	33,893	37,644	38,126	39,270	37,360	37,754	37,988	37,046	37,223	33,572	34,472	440,728	439,392
Daily average	1,174	1,210	1,214	1,271	1,267	1,245	1,218	1,225	1,235	1,201	1,119	1,113	1,207	1,204
Imports*	1,079	953	1,369	1,319	1,768	1,670	1,741	1,827	1,538	1,620	1,079	964	16,927	8,834
Exports*	5,527	4,888	6,256	5,840	5,012	7,247	5,692	6,687	4,028	6,323	3,688	4,387	65,575	62,059
Stocks	49,727	53,229	55,239	54,435	54,108	50,120	45,727	41,424	38,194	38,624	38,705	40,541	40,541	43,261
Days' Supply	50	48	46	41	41	36	32	29	27	31	34	37	32	36
Domestic demand	25,466	26,456	30,747	34,409	36,352	35,771	38,196	37,431	37,786	32,090	30,882	29,213	394,800	375,999
Daily average	821	945	992	1,147	1,173	1,192	1,232	1,207	1,260	1,035	1,029	942	1,082	1,030
KEROSINE:														
Production	4,489	4,398	4,752	4,435	4,317	4,026	3,929	3,975	3,846	3,876	3,590	3,575	49,208	55,940
Imports*	9	5	1	38	6	61	5	2	36	1	.....	37	200	208
Exports*	1,968	1,204	1,745	1,552	826	1,749	1,033	1,694	1,372	1,416	1,003	1,322	16,884	20,022
Stocks	8,571	8,565	8,455	8,068	8,384	8,352	8,319	8,030	7,771	7,633	7,379	6,883	6,883	9,095
Domestic demand	3,054	3,205	3,118	3,308	3,181	2,370	2,934	2,572	2,768	2,599	2,841	2,786	34,736	36,032
GAS OIL AND FUEL OIL:														
Production:														
Gas oil and distillate fuels	6,669	6,079	6,232	6,305	7,139	6,953	6,726	6,831	7,051	7,167	7,182	7,217	81,551	.....
Residual fuel	26,173	25,163	26,004	25,799	26,588	23,953	24,422	23,031	22,813	22,642	21,872	22,487	290,947	.....
Total	32,842	31,242	32,236	32,104	33,727	30,906	31,148	29,862	29,864	29,809	29,054	29,704	372,498	428,219
Imports*	2,652	2,257	2,254	1,837	1,810	2,287	2,286	2,489	2,035	2,165	1,712	2,256	26,080	20,545
Exports*	3,294	2,835	3,613	3,730	2,401	3,951	3,095	3,057	2,373	3,032	1,959	3,110	36,450	39,151
Stocks:														
Gas oil and distillate fuels	14,992	13,239	13,184	13,988	15,721	17,149	17,380	18,322	19,371	19,258	18,444	16,390	16,390	.....
Residual fuel†	20,881	21,041	19,814	19,562	20,943	21,153	21,747	21,397	22,109	22,035	21,993	20,617	20,617	.....
Total	35,873	34,280	32,998	33,650	36,664	38,302	39,127	39,729	41,480	41,293	40,427	37,007	37,007	39,762
Total‡	143,072	142,133	140,565	139,587	142,439	143,934	144,085	143,892	145,185	143,823	143,680	140,428	140,428	146,831
LUBRICANTS:														
Production	2,880	2,727	3,120	3,193	3,185	2,920	3,018	2,971	3,723	2,546	2,409	2,509	34,201	34,359
Imports*	3	1	3	2	2	2	2	3	2	2	2	1	25	39
Exports*	909	870	726	991	864	936	924	826	685	734	804	616	9,935	10,860
Stocks	8,956	9,289	9,561	9,549	9,498	9,742	9,953	10,161	10,257	10,502	10,536	10,971	10,971	8,269
Domestic demand	1,287	1,525	2,125	2,216	2,374	1,692	1,885	1,940	1,944	1,569	1,573	1,459	21,589	23,509
WAX (thousands of pounds):														
Production	52,360	50,960	61,320	54,040	45,920	43,680	45,640	39,760	43,960	38,080	35,840	36,120	547,680	630,074
Imports†	2,220	2,151	2,080	4,280	3,736	1,532	1,506	1,677	913	3,182	3,977	3,168	30,402	40,860
Exports*	32,543	18,768	20,076	20,066	21,563	23,016	20,394	23,697	30,175	31,727	33,413	27,625	292,973	319,324
Stocks	204,209	211,777	230,734	241,853	248,524	249,748	254,999	254,990	248,940	240,060	237,027	232,592	232,592	189,592
Domestic demand	7,510	26,775	24,367	27,135	21,412	20,962	21,501	17,749	20,748	18,415	19,437	16,098	242,109	274,572

*From Bureau of Foreign and Domestic Commerce. Exports include shipments to Alaska, Hawaii and Porto Rico. †East of California. ‡Includes California heavy crude and fuel oil.

NATURAL GASOLINE IN THE UNITED STATES IN 1930, BY MONTHS, IN MILLIONS OF GALLONS

NATURAL GASOLINE:	January	February	March	April	May	June	July	August	September	October	November	December	The year
Production by fields:													
Appalachian	11.0	9.2	9.9	8.2	6.8	6.1	5.1	5.6	4.8	7.0	7.6	8.4	89.2
Kentucky, Illinois and Indiana	1.5	1.4	1.4	1.2	1.1	.9	.8	.9	.9	1.1	1.1	1.2	13.5
Oklahoma	51.0	48.3	54.5	54.8	55.0	53.9	48.9	46.1	45.9	47.7	42.6	42.5	591.2
Oklahoma City	1.9	1.7	2.4	3.1	3.8	4.0	2.7	2.9	4.0	4.4	3.6	3.8	38.3
Osage County	6.3	6.0	6.8	6.8	6.2	6.2	6.3	6.4	6.4	6.4	6.1	6.3	76.2
Seminole	23.9	22.1	24.5	25.4	25.2	25.2	21.8	19.2	18.3	18.6	16.9	16.4	257.5
Rest of State	18.9	18.5	20.8	19.5	19.8	18.5	18.1	17.6	17.2	18.3	16.0	16.0	219.2
Kansas	2.8	3.0	3.0	3.3	3.3	2.9	2.6	2.5	2.5	3.2	3.1	2.9	35.1
Texas	37.4	36.9	40.4	40.4	42.2	38.7	40.6	42.2	41.8	43.7	44.0	43.0	491.3
Panhandle	19.1	18.3	20.4	20.7	22.0	18.9	20.6	22.6	21.7	21.8	22.1	22.2	250.4
North Texas	3.4	3.6	3.9	3.6	3.8	3.5	3.7	3.6	3.4	3.6	3.7	3.8	43.6
West Central	11.6	11.9	12.5	12.5	12.6	12.7	12.6	12.3	12.1	12.8	12.3	12.1	148.0
Rest of State	3.3	3.1	3.6	3.6	3.8	3.6	3.7	3.7	4.6	5.5	5.9	4.9	49.3
Louisiana	8.0	6.3	7.8	6.3	6.3	5.9	5.8	5.7	5.6	6.1	5.0	4.9	73.7
Arkansas	2.3	2.3	2.6	2.6	2.7	2.7	2.6	2.7	2.5	2.6	2.5	2.5	30.6
Rocky Mountain	3.2	3.8	4.4	4.5	4.6	4.6	4.6	4.7	4.8	5.2	5.7	6.1	56.2
California	71.1	70.1	71.3	67.9	71.0	66.6	69.9	70.2	65.6	68.4	69.7	67.9	829.7
Long Beach	15.3	14.8	15.3	14.8	14.9	13.9	14.9	15.4	14.7	15.3	14.5	14.7	178.5
Ventura Avenue	6.2	6.3	5.5	5.2	5.5	5.4	5.7	5.7	5.3	5.7	5.6	5.9	68.0
Seal Beach	3.2	3.0	2.7	2.5	2.3	2.1	2.0	2.0	2.0	1.8	1.6	1.6	26.8
Huntington Beach	3.5	3.3	2.8	2.7	2.7	2.7	2.7	2.7	2.6	2.5	2.5	2.3	33.0
Kettleman Hills	8.8	8.2	9.8	12.5	14.4	13.6	14.1	14.8	13.5	13.2	17.1	15.3	155.3
Santa Fe Springs	21.5	21.0	21.5	16.8	17.4	15.7	16.4	16.3	15.6	16.0	15.1	14.6	207.9
Rest of State	12.6	13.5	13.7	13.4	13.8	13.2	14.1	13.3	11.9	13.9	13.2	13.5	160.3
Total United States	188.3	181.4	195.3	189.2	193.0	182.3	180.9	180.0	174.4	185.0	183.3	179.4	2,216.5
Daily average	6.1	6.5	6.3	6.3	6.2	6.1	5.8	5.8	5.8	6.0	6.0	5.8	6.1
Stocks at end of period	25.7	24.0	28.3	29.8	35.7	39.0	31.1	31.3	22.4	23.5	25.0	24.3	24.3
Indicated deliveries	188.0	183.1	191.0	187.7	184.1	182.0	188.8	179.8	183.3	183.9	179.8	180.1	2,211.6
Blending at plants:													
Natural gasoline used*	1.3	.9	1.1	1.0	.9	.9	.9	.8	.7	.7	.7	.7	10.6
Naphtha used*	1.6	.8	.9	.9	1.0	1.1	1.1	.9	1.0	.9	.8	.7	11.7
Stocks of blends end of period	.6	.5	.5	.6	.5	.5	.5	.5	.5	.5	.6	.5	.5

*Exclusive of California.

(Continued on Next Page)

SUPPLY AND DEMAND OF ALL OILS IN 1930, BY MONTHS

(Including wax, coke, and asphalt in thousands of barrels of 42 U. S. gallons.)

NEW SUPPLY:	January	February	March	April	May	June	July	August	September	October	November	December	1930	1929
Domestic production:														
Crude petroleum	79,633	74,290	78,226	77,483	80,528	77,060	76,922	74,831	71,216	72,893	67,957	66,972	898,011	1,007,323
Daily average	2,569	2,653	2,523	2,583	2,598	2,569	2,481	2,414	2,374	2,351	2,265	2,160	2,460	2,760
Natural gasoline	4,483	4,319	4,650	4,505	4,595	4,341	4,307	4,286	4,152	4,405	4,317	4,271	52,631	52,271
Benzol	240	229	262	253	254	235	224	216	202	204	187	187	2,689	3,055
Total production	84,356	78,838	83,138	82,241	85,377	81,636	81,453	79,333	75,570	77,502	72,461	71,426	953,331	1,062,649
Daily average	2,721	2,816	2,682	2,741	2,754	2,721	2,628	2,559	2,519	2,500	2,415	2,304	2,612	2,911
Imports*:														
Crude petroleum	5,450	4,321	4,827	5,781	4,984	5,767	5,877	5,059	5,808	5,061	4,467	4,727	62,129	78,933
Refined products	3,806	3,324	3,714	3,214	3,603	4,028	4,040	4,329	3,614	3,800	2,807	3,310	43,489	29,777
Total new supply, all oils	93,612	86,383	91,679	91,236	93,894	91,431	91,370	88,721	84,992	86,363	79,735	79,463	1,058,949	1,171,359
Daily average	3,020	3,085	2,957	3,041	3,031	3,048	2,947	2,862	2,833	2,786	2,658	2,563	2,901	3,209
Increase in stocks, all oils	4,112	5,642	1,396	†1,840	2,001	†2,606	†4,494	†6,877	†8,402	†4,051	†2,504	†6,377	†24,000	68,156
DEMAND:														
Total demand	89,500	80,741	90,283	93,076	91,963	94,037	95,864	95,598	93,394	90,414	82,239	85,840	1,082,949	1,103,203
Daily average	2,887	2,884	2,912	3,103	2,967	3,135	3,092	3,084	3,113	2,917	2,741	2,769	2,967	3,022
Exports*:														
Crude petroleum	1,808	1,731	1,944	1,900	2,202	2,508	1,973	2,407	1,961	2,167	1,765	1,339	23,705	26,401
Refined products	12,042	10,123	12,688	13,482	9,468	14,332	11,040	12,563	8,753	11,807	7,768	9,728	132,794	136,719
Domestic demand	75,650	68,887	75,651	78,694	80,293	77,197	82,851	80,628	82,680	76,440	72,706	74,773	926,450	940,083
Daily average	2,440	2,460	2,440	2,623	2,590	2,573	2,673	2,601	2,756	2,466	2,424	2,412	2,538	2,576
Excess of daily average domestic production over domestic demand	281	356	242	118	164	148	‡45	‡42	‡237	34	‡9	‡108	74	335
STOCKS (end of month):														
Crude petroleum:														
East of California	385,871	387,116	385,952	385,767	384,458	384,458	384,696	381,951	376,763	375,868	373,296	368,484	368,484	387,396
California‖	149,067	152,094	152,277	150,083	148,757	146,677	146,029	144,834	144,137	142,868	143,725	143,746	143,746	148,118
Total crude	534,938	539,210	538,229	535,850	533,733	531,135	530,725	526,785	520,900	518,736	517,021	512,230	512,230	535,514
Natural gasoline at plants	611	572	673	709	920	928	741	744	534	559	596	578	578	604
Refined products	158,060	159,469	161,745	162,248	166,155	166,139	162,242	159,302	156,995	155,083	154,257	152,689	152,689	153,379
GRAND TOTAL STOCKS, ALL OILS	693,609	699,251	700,647	698,807	700,808	698,202	693,708	686,831	678,429	674,378	671,874	665,497	665,497	689,497
Days' supply¶	240	242	241	225	236	223	224	223	218	231	245	240	224	228
Bunker oil (included above in domestic demand)	4,223	4,065	4,077	4,234	4,657	4,041	4,316	4,702	4,333	4,463	3,794	3,868	50,773	52,278

*From Bureau of Foreign & Domestic Commerce. Exports include shipments to Alaska, Hawaii, and Porto Rico and benzol. †Decrease. ‡Deficiency. ‖Includes residual fuel oil. ¶Grand total stocks all oils divided by daily average total demand.

PRODUCTION OF CRUDE PETROLEUM IN 1930, BY STATES

(Thousands of barrels of 42 U. S. gallons.)

	January	February	March	April	May	June	July	August	September	October	November	December	1930	1929
Arkansas	1,683	1,665	1,793	1,725	1,622	1,655	1,699	1,641	1,574	1,596	1,476	1,543	19,702	24,917
California*	21,898	20,805	19,624	18,696	18,970	17,951	18,749	18,717	17,933	18,192	18,058	17,736	227,329	292,534
Long Beach	3,298	3,187	3,082	3,098	2,949	2,792	3,104	3,203	3,012	3,041	2,920	2,914	36,600	60,496
Santa Fe Springs	5,302	5,018	4,650	3,842	3,720	3,391	3,478	3,376	3,059	2,936	2,816	2,662	44,251	76,477
Rest of State	13,298	12,600	11,892	11,756	12,301	11,768	12,167	12,138	11,862	12,215	12,322	12,159	146,478	155,561
Colorado	142	148	143	138	141	134	143	136	129	135	129	138	1,656	2,358
Illinois	487	478	532	511	540	513	531	523	409	428	378	406	5,736	6,319
Indiana	78	84	81	92	93	90	94	92	74	75	70	71	994	981
Southwestern	74	80	77	87	87	85	89	88	69	70	67	68	941	918
Northeastern	4	4	4	5	6	5	5	4	5	5	3	3	53	63
Kansas	3,149	3,103	3,477	3,520	3,948	4,087	3,618	3,414	3,439	3,432	3,252	3,199	41,638	42,813
Kentucky	685	604	625	643	663	609	676	610	621	608	524	541	7,399	7,775
Louisiana	1,694	1,737	1,875	1,878	1,827	1,911	2,022	2,047	1,963	2,106	2,082	2,130	23,272	20,554
Gulf Coast	551	596	620	601	664	688	784	831	790	837	829	819	8,610	7,454
Rest fo State	1,143	1,141	1,255	1,277	1,163	1,223	1,238	1,216	1,173	1,269	1,253	1,311	14,662	13,100
Michigan	416	390	382	360	335	342	356	301	253	256	253	267	3,911	4,528
Montana	261	263	270	298	308	288	301	312	267	252	251	278	3,349	3,980
New Mexico	316	313	345	366	576	750	1,347	1,276	1,258	1,267	1,157	1,218	10,189	1,830
New York	314	327	369	373	392	326	275	213	263	285	248	262	3,647	3,377
Ohio	547	535	545	584	586	570	578	509	526	549	453	504	6,486	6,743
Central and Eastern	446	423	436	464	463	450	457	402	417	441	367	408	5,174	5,259
Northwestern	101	112	109	120	123	120	121	107	109	108	86	96	1,312	1,484
Oklahoma	20,276	17,643	19,361	19,919	21,204	19,570	17,967	17,010	16,553	16,882	15,095	15,006	216,486	255,004
Oklahoma City	2,551	2,498	2,305	3,245	3,874	3,404	2,667	3,095	3,022	2,874	2,459	2,609	34,603	8,710
Seminole	7,814	6,258	6,631	6,412	6,407	6,356	5,394	4,364	4,265	4,407	3,776	4,133	66,217	135,833
Rest of State	9,911	8,887	10,425	10,262	10,923	9,810	9,906	9,551	9,266	9,601	8,860	8,264	115,666	110,461
Pennsylvania	1,162	1,127	1,217	1,298	1,312	1,109	939	862	911	1,008	946	912	12,803	11,820
Tennessee	2	1	1	1	2	1	3	2	1	1	3	2	21	19
Texas	24,611	23,238	25,537	25,076	25,980	25,248	25,742	25,292	23,152	23,846	21,777	20,958	290,457	296,876
Gulf Coast	5,127	4,962	5,544	5,315	5,416	5,251	5,353	5,211	4,911	4,786	4,534	4,656	61,066	49,652
West Texas	10,401	9,568	10,343	9,502	9,522	8,987	9,096	8,782	8,120	8,713	8,079	7,617	108,730	133,328
Rest of State	9,083	8,708	9,650	10,259	11,042	11,010	11,293	11,299	10,121	10,347	9,164	8,685	120,661	113,896
West Virginia	462	442	449	471	475	451	444	355	372	417	350	382	5,071	5,574
Wyoming	1,470	1,386	1,599	1,533	1,553	1,424	1,427	1,517	1,517	1,558	1,455	1,419	17,868	19,314
Other†	.....	.....	1	1	1	1	1	1	1	.....	.....	.....	7	7
Total United States	79,633	74,290	78,226	77,483	80,528	77,060	76,922	74,831	71,216	72,893	67,957	66,972	898,011	1,007,323
Daily average	2,569	2,653	2,523	2,583	2,598	2,569	2,481	2,414	2,374	2,351	2,265	2,160	2,460	2,760

*Annual and semiannual figures from Division of Mines, Department of Natural Resources, California. Monthly figures prorated on basis of monthly reports by the American Petroleum Institute. †Alaska and Utah.

VALUE OF CRUDE PETROLEUM AT WELLS, 1930 AND 1929, AND NUMBER OF PRODUCING OIL WELLS IN THE UNITED STATES DECEMBER 31, 1930, AND 1929

	Value at wells — 1930		Value at wells — 1929		Producing oil wells in U. S. Dec. 31, 1930, and 1929 — 1930		1929	
	Total	Average per barrel	Total	Average per barrel	Number of wells	Average per well per day* (barrels)	Number of wells	Average per well per day* (barrels)
Alaska	(†)	.. ..	(†)	.....	(†)	.....	(†)	.. ..
Arkansas	$17,390,000	$0.88	$21,890,000	$0.88	3,850	13.9	3,900	16.2
California‡	271,699,000	1.20	321,367,000	1.10	§9,450	62.4	§10,520	75.5
Colorado	1,480,000	.89	2,380,000	1.01	240	19.7	220	30.0
Illinois	9,100,000	1.59	10,420,000	1.65	15,800	1.0	16,000	1.1
Indiana:								
Southwestern	1,540,000	1.64	1,520,000	1.66	1,140	2.3	1,130	2.2
Northeastern	70,000	1.32	90,000	1.43	600	.2	820	.2
Total Indiana	1,610,000	1.62	1,610,000	1.64	1,740	1.5	1,950	1.3
Kansas	54,880,000	1.32	62,510,000	1.46	20,120	5.7	20,080	5.9
Kentucky	11,080,000	1.50	13,220,000	1.70	14,400	1.4	14,650	1.5
Louisiana:								
Gulf Coast	9,200,000	1.07	9,150,000	1.23	370	64.6	360	60.1
Rest of State	16,910,000	1.15	16,550,000	1.26	3,560	11.5	3,420	10.4
Total Louisiana	26,110,000	1 12	25,700,000	1.25	3,930	16 5	3,780	14.8
Michigan	5,160,000	1.32	6,140,000	1.36	540	18.8	500	27.6
Montana	5,420,000	1.62	7,260,000	1.82	1,410	6.8	1,290	9.1
New Mexico	9,180,000	.90	2,170,000	1.19	460	76.5	270	18.9
New York	9,850,000	2.70	13,170,000	3.90	17,100	.6	16,800	.6
Ohio:								
Central and Eastern	10,020,000	1.94	13,200,000	2.51	20,710	.7	20,720	.7
Northwestern	1,940,000	1.48	2,570,000	1.73	15,820	.2	16,490	.2
Total Ohio	11,960,000	1.84	15,770,000	2 34	26,530	.5	37,210	.5
Oklahoma	279,250,000	1.29	364,650,000	1.42	63,600	9.5	61,180	11.3
Pennsylvania	33,410,000	2.61	44,800,000	3.79	80,560	.4	80,320	.4
Tennessee	26,000	1.24	30,000	1.58	(†)	.....	(†)	.....
Texas:								
Gulf Coast	63,650,000	1.04	59,930,000	1.21	2,840	58.2	2,910	47.2
West Texas	87,040,000	.80	110,780,000	.83	2,910	110.3	2,490	161.3
Rest of State	137,720,000	1.14	151,810,000	1.33	32,310	10.5	30,880	10.1
Total Texas	288,410,000	.99	322,520,000	1.09	38,060	21 4	36,280	22.6
Utah	(†)	.....	(†)	.....	(††)	.....	(†)	.....
West Virginia	11,820,000	2.32	26,070,000	3.60	19,600	.7	19,650	.8
Wyoming	22,350,000	1.35	24,700,000	1.28	3,520	13.9	3,530	16.0
Other	‖15,000	2.14	‖30,000	4.29	‖60	.....	‖70	.....
Total	1,070,200,000	1.19	1,280,417,000	1.27	331,070	7.5	328,200	8.4

*Based on average for year. †Included in "Other." ‡Division of Mines, Department of Natural Resources, California. §From American Petroleum Institute. ‖Alaska and Utah. ¶Alaska, Tennessee, and Utah.

Oklahoma-Kansas and Eastern Pipe Line Repo

OKLAHOMA-KANSAS

Pipe Line Statement for August Runs

	Month (bbls.)	Dy. av. (bbls.)
Prairie P. L. Co.*	530,100	17,100
Gulf P. L. Co.	1,184,912	38,223
Texas P. L. Co.	424,977	13,709
Magnolia P. L. Co.	1,376,606	44,407
Empire P. L. Co.	1,303,455	42,047
Cosden P. L. Co.	584,860	18,866
Stanolind P. L. Co.*	1,556,200	50,200
Oklahoma P. L. Co.	1,987,099	64,100
Other lines	4,050,119	130,649
Total August	13,029,328	419,301
Total July	19,563,548	631,081
Difference	6,534,220	211,780

Shipments

Prairie P. L. Co.	3,413,618	110,117
Gulf P. L. Co.	1,631,578	52,309
Texas P. L. Co.	768,064	24,776
Magnolia P. L. Co.	1,312,642	42,343
Empire P. L. Co.	2,041,816	65,865
Cosden P. L. Co.	724,574	23,373
Stanolind P. L. Co.	3,672,415	118,465
Oklahoma P. L. Co.	2,957,638	95,408
Other lines*	6,758,000	218,000
Total August	23,270,345	750,656
Total July	23,149,033	746,743
Difference	121,312	3,913

Stocks

Prairie O. & G. Co.*	26,523,000
Gulf P. L. and Gypsy Oil Co.	8,658,769
The Texas Company	3,430,631
Magnolia Petroleum Co.	6,689,308
Empire P. L. Co.	4,082,258
Mid-Continent Petroleum Corp.	3,494,511
Stanolind Crude Oil Pur. Co.*	16,831,600
Oklahoma P. L. Co.	1,202,189
Carter Oil Co.	7,889,875
Other lines*	16,624,839
Total August	105,427,880
Total July	111,096,680
Difference	5,668,800

*Estimated.

EASTERN PIPE LINE REPORT FOR MONTH OF SEPTEMBER

Runs from Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky, Illinois, Indiana and Michigan for August and September:

	Aug., 1931	Sept., 1931
Nat Trantist	121,756.53	145,864.04
S W Pa. P. L.	64,160.09	79,823.98
Eureka P. L.	274,238.96	306,199.28
Buckeye P. L. (Macksburg)	225,597.43	277,205.53
Buckeye P. L. (Cleveland)	11,149.05	12,190.61
Buckeye P. L. (Lima, etc.)	70,669.93	82,263.82
Indiana P. L.	2,600.03	2,703.99
Cumberland P. L.	146,239.07	145,866.70
N. Y. Transit	26,817.39	30,392.22
Tidewater P. L.	23,868.07	22,802.35
Pure Oil	217,524.86	292,400.07
Stoll Oil Ref.	58,043.70	29,470.48
Bradford Transit	363,931.05	415,169.77
Total	1,596,596.16	1,840,352.84
Daily average	51,503.10	61,345.09

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of the various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for August and September:

	Aug., 1931	Sept., 1931
Nat. Transit	572,837.36	499,112.79
S W Pa P. L.	470,477.88	423,403.26
Eureka P. L.	403,173.50	372,988.75
Buckeye P. L. (Macksburg)	209,652.58	234,573.66
Buckeye P. L. (Cleveland)	2,191.00	1,944.16
Buckeye P. L. (Lima, etc.)	1,965,006.60	1,802,206.78
Indiana P. L.	1,146,141.55	909,359.87
Cumberland P. L.	97,247.87	115,316.63
Southern P. L.	67,327.53	70,722.76
N. Y. Transit	184,459.52	171,412.21
Northern P. L.	194,193.95	255,413.44
Tidewater P. L.	557,863.79	465,676.21
Pure Oil	233,792.38	222,738.09
Bradford Transit	365,531.21	480,695.64
Tuscarora	479,254.08	500,545.93
Total	6,949,150.80	6,526,110.15
Daily average	224,166.16	217,537.01

Gross Stocks

The gross stocks held by various pipe lines in the oil-producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky at the close of August and September:

	Aug., 1931	Sept., 1931
Nat. Transit	709,462.64	749,274.20
S W Pa. P. L.	437,987.83	404,189.10
Eureka P. L.	1,604,025.48	1,445,855.17
Buckeye P. L. (Macksburg)	304,905.35	347,122.32
Buckeye P. L. (Cleveland)	41,579.11	39,616.26
Buckeye P. L. (Lima, etc.)	2,982,405.14	2,778,403.92
Indiana P. L.	507,328.32	523,814.43
Cumberland P. L.	621,498.00	49,282.55
Southern P. L.	206,524.98	219,384.72
N. Y. Transit	117,899.23	108,612.34
Northern P. L.	247,413.61	208,028.03
Tidewater P. L.	862,114.87	924,216.84
Pure Oil	410,582.85	485,055.55
Tuscarora	12,283.66	11,544.91
Bradford Transit	126,446.26	178,031.09
Total	9,192,457.33	8,492,431.43
Decrease	377,392.45	700,025.90

Grades of Oil

The following table shows the amount of the different grades of oil held by the Eastern pipe lines at the close of August and September, showing gross stocks of the above fields:

	Aug., 1931	Sept., 1931
Pennsylvania	3,104,338.44	3,054,494.51
Lima	711,235.85	664,893.87
Kentucky	632,038.36	79,690.06
Mid-Continent	3,343,664.94	4,202,724.97
Illinois		15,643.58
Michigan	401,179.74	474,984.44
Total	9,192,457.33	8,492,984.44

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1928	1929	1930	1931
January	52,904	51,749	75,907	53,939
February	57,002	51,833	79,256	55,163
March	57,485	54,252	76,688	54,331
April	56,812	58,444	84,536	54,914
May	62,067	59,902	70,546	53,344
June	58,230	58,833	75,430	54,110
July	57,144	66,087	68,921	50,723
August	57,745	66,087	54,291	51,503
September	53,487	67,315	56,595	61,345
October	58,100	76,093	58,179	.....
November	53,865	74,831	52,332	.....
December	52,025	74,561	53,999	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1928	1929	1930	1931
January	146,465	165,721	217,623	175,369
February	167,368	159,387	224,355	183,494
March	158,883	161,474	228,846	189,508
April	172,935	169,737	241,845	191,450
May	180,559	184,281	248,383	199,247
June	188,024	185,404	234,401	221,155
July	189,470	194,763	207,094	211,632
August	192,853	194,946	205,506	224,166
September	194,138	201,214	193,999	217,537
October	176,000	191,367	157,675	.....
November	176,898	202,743	146,638	.....
December	173,572	186,257	143,001	.....

Gross Stocks

In the following table will be f... gross stocks of the various lines ... Pennsylvania, Lima and Kentucky oil ... including oil received from other li... the close of each month for the past ... years:

	1929	1930	19...
January	7,596,564	12,220,045	11,831...
February	8,738,835	12,991,561	11,506...
March	9,002,058	13,247,217	11,012...
April	8,978,172	13,233,961	11,044...
May	8,903,560	13,052,953	10,728...
June	8,921,275	13,396,855	9,903...
July	9,211,565	13,268,562	9,569...
August	9,440,643	13,047,051	9,192...
September	9,443,067	12,812,018	8,492...
October	9,441,101	12,437,555	....
November	9,868,538	11,851,380	....
December	11,253,953	11,751,952	....

The Illinois Field

The following table gives the report ... the Illinois Pipe Line Co. in Illinois:

	Bbls.
Gross stocks, Oct. 1	545,397
Runs from wells	469,381
Other receipts	72,046
Regular deliveries	300,486
Other deliveries	233,151

The amount of Illinois oil run by ... Tidewater Pipe Line Co. in September ... 22,802.35 bbls. Deliveries were 22,526.21 b... Adding these figures to those of the Illi... Pipe Line Co. makes the runs and ... liveries as follows:

	Runs	Deliver...
1931—		
September	492,183.83	323,012...
1930—		
January	543,387.95	498,292...
February	548,416.33	414,536...
March	631,944.49	469,119...
April	530,074.22	509,304...
May	605,147.37	504,069...
June	572,662.57	468,658...
July	604,529.54	388,454...
August	594,642.12	375,742...
September	457,001.11	371,691...
October	478,442.12	320,688...
November	422,794.68	355,402...
December	556,418.78	363,719...
1931—		
January	468,429.04	669,573...
February	429,284.54	461,262...
March	424,638.23	356,663...
April	421,814.98	282,532...
May	433,231.80	322,513...
June	510,805.78	320,258...
July	520,009.38	289,212...
August	476,623.56	394,25...

Tidewater Pipe Co., Ltd., also deliver... in September 124,993.66 bbls. of Oklaho... oil.

AVERAGE DAILY RECEIPTS OF CALIFORNIA CRUDE AND REFINED OIL AT ATLANTIC AND GULF PORTS

Average barrels per day in 1930-31—	ATLANTIC PORTS						GULF COAST PORTS					
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	New Orleans, Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total all ports
September	6,300	6,400	25,600	13,400	9,567	61,267	.....	.....	.....	.....	2,433	63,7...
October	2,516	3,065	27,258	16,419	4,903	54,161	.....	.....	.....	.....	5,355	59,5...
November	3,367	6,233	33,800	17,733	4,800	70,733	.....	.....	.....	.....	4,800	75,5...
December	5,516	4,323	30,645	9,678	3,580	53,742	.....	.....	.....	.....	4,645	58,3...
January	8,387	6,613	21,968	14,678	11,096	62,742	.....	.....	.....	.....	5,129	67,8...
February	5,787	2,713	29,143	4,000	5,750	47,393	.....	.....	.....	.....	3,750	51,1...
March	10,032	1,611	21,388	7,324	8,774	49,129	.....	.....	.....	.....	6,355	55,4...
April	5,133	.....	19,200	16,500	10,067	50,900	.....	.....	.....	.....	4,000	54,9...
May	4,452	3,064	19,903	11,226	6,258	44,903	.....	.....	.....	.....	2,355	47,2...
June	4,267	.....	25,100	6,333	3,500	39,200	.....	.....	.....	.....	.....	39,2...
July	6,774	1,194	24,613	11,065	9,902	53,548	.....	.....	.....	.....	1,335	54,9...
August	2,452	.....	16,419	7,419	4,290	31,580	.....	.....	.....	.....	968	32,5...

AVERAGE DAILY IMPORTS OF CRUDE AND REFINED OIL AT PRINCIPAL UNITED STATES PORTS

Average barrels per day in 1930-31—	ATLANTIC PORTS						GULF COAST PORTS					
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	New Orleans, Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total all ports
September	33,867	3,533	150,933	34,500	25,567	258,400	6,433	12,234	.....	3,800	22,467	280,8...
October	19,839	11,742	146,194	35,355	26,967	240,097	4,065	7,067	2,774	3,545	18,451	258,5...
November	39,633	35,900	124,633	36,467	24,667	261,300	3,467	7,366	.....	1,767	11,600	272,9...
December	21,419	14,033	122,774	32,839	33,774	224,839	6,290	10,613	2,097	290	19,290	244,1...
January	17,613	13,519	154,235	32,902	30,612	248,871	2,032	11,677	2,097	3,097	18,903	267,7...
February	31,321	16,929	127,786	31,714	26,857	234,607	4,536	11,571	.....	536	16,643	251,2...
March	27,645	18,935	141,160	36,290	31,129	238,161	4,065	2,580	.....	1,968	8,613	246,7...
April	35,000	10,833	105,000	29,767	35,533	215,833	2,733	3,400	.....	.....	6,133	221,9...
May	30,129	8,774	107,000	25,452	26,710	198,065	.....	2,000	.....	.....	2,000	200,0...
June	30,067	10,833	111,767	27,000	30,833	200,500	3,300	5,500	3,167	1,333	13,300	212,8...
July	36,387	11,226	104,678	29,323	21,773	193,387	6,903	7,419	4,194	.....	18,516	211,9...
August	33,613	15,581	91,742	22,387	25,741	188,064	4,161	2,516	.....	3,162	9,839	197,9...

GROSS PRODUCTION OF CRUDE OIL IN THE UNITED STATES FOR 12 MONTHS

(In Barrels of 42 Gallons)

		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mts.	Eastern	Total
1930—										
September:	Month	17,984,306	16,509,120	23,111,522	3,405,510	1,583,280	2,008,060	3,239,010	3,396,000	71,237,...
	Daily average	599,477	550,304	770,394	113,517	52,776	66,935	107,967	113,200	2,374,...
October:	Month	18,244,053	16,632,523	23,626,553	3,517,913	1,636,552	2,142,385	3,235,550	3,427,000	72,707,...
	Daily average	588,518	536,533	762,147	115,223	52,792	69,135	104,050	117,000	2,345,...
November:	Month	15,109,459	14,941,770	22,036,222	3,459,330	1,557,870	2,136,943	3,057,100	3,222,000	65,419,...
	Daily average	503,648	498,059	734,507	115,311	51,929	71,231	98,570	107,400	2,180,...
December:	Month	17,786,728	15,057,103	21,810,359	3,432,661	1,590,951	2,157,534	3,113,663	3,328,000	68,281,...
	Daily average	573,765	485,713	703,560	110,731	51,321	69,598	100,602	107,355	2,202,...
1931—										
January:	Month	16,485,738	14,850,953	20,019,313	3,432,475	1,574,955	2,135,037	2,966,142	3,274,000	64,838,...
	Daily average	531,798	479,063	645,781	110,725	50,805	68,872	95,682	105,839	2,091,...
February:	Month	14,930,932	13,531,980	18,957,571	3,341,014	1,402,492	1,951,616	2,747,024	3,139,000	60,021,...
	Daily average	533,248	483,285	677,057	119,322	50,089	70,772	98,108	111,750	2,143,...
March:	Month	16,364,843	16,627,687	22,453,619	3,498,598	1,469,245	2,061,576	2,898,035	3,374,000	68,747,...
	Daily average	527,898	536,377	724,310	112,858	47,395	66,502	93,485	108,839	2,217,...
April:	Month	15,803,541	16,315,990	26,887,717	3,281,330	1,412,220	2,008,021	2,901,870	3,273,000	72,384,...
	Daily average	526,785	559,255	896,257	109,396	47,074	66,934	96,729	109,100	2,412,...
May:	Month	16,448,960	17,333,867	28,708,684	3,341,366	1,446,274	2,232,568	3,093,419	3,190,000	75,806,...
	Daily average	530,612	559,157	926,086	107,786	46,654	72,018	99,949	102,900	2,445,...
June:	Month	15,641,436	16,678,200	29,139,333	3,175,440	1,344,450	1,950,511	2,986,200	3,166,000	73,982,...
	Daily average	521,381	555,940	971,327	105,848	44,815	61,684	99,540	105,533	2,466,...
July:	Month	16,093,322	16,467,789	33,827,213	3,090,762	1,287,430	1,715,730	2,905,909	3,341,000	78,729,...
	Daily average	519,139	531,219	1,091,200	99,702	41,530	55,345	93,739	107,774	2,539,...
August:	Month	15,668,984	9,678,510	32,279,816	3,148,887	1,165,445	1,584,444	2,807,143	3,167,000	69,500,...
	Daily average	505,451	312,210	1,041,284	101,577	37,595	51,111	90,553	102,161	2,241,...
Total 12 months		199,562,301	185,135,492	302,857,621	40,179,838	17,471,164	24,014,930	35,851,065	39,587,000	844,649,...
Daily average		546,746	507,193	829,747	110,082	47,866	65,794	98,222	108,458	2,314,...